DOCUMENT RESUME

ED 324 161 RC 017 756

AUTHOR	Coughlin, Kenneth M., Ed.
TITLE	Perspectives on the Structure of American Agriculture. Volume II: Federal Farm Policies--Their Effects on Low-Income Farmers and Rural Communities.
INSTITUTION	Rural America, Inc., Washington, D.C.
SPONS AGENCY	Community Services Administration (DHEW), Washington, D.C.
PUB DATE	80
NOTE	54p.; For volume 1, see RC 017 770.
PUB TYPE	Information Analyses (070) -- Reports - Evaluative/Feasibility (142) -- Viewpoints (120)
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	Agribusiness; Agricultural Trends; Agriculture; Disadvantaged Environment; Economic Factors; *Farmers; *Federal Programs; *Low Income Groups; Poverty; *Public Policy; Research Administration; Research Utilization; Resource Allocation; *Rural Economics
IDENTIFIERS	Agricultural Policy; Farmers Home Administration; *Farm Policy; *Small Farms

ABSTRACT

Agriculture and farming are the economic context for rural education. This is the second of two volumes of papers describing the impact of national agricultural policy on the poor. The nine articles in this volume (shot-titled below) analyze federal policy from the standpoint of the low-income farmer: (1) "Agricultural Price Supports," prepared by the Center for Rural Affairs, examines the effects of federal price supports on small farmers; (2) "A Case for Non-Support," by E. Phillip LeVeen, describes how federal commodity-program benefits are skewed against small farmers and how price supports encourage concentration of farming resources; (3) "Who Gets the Credit?" by Michael Schaaf and Thomas Dowling, describes how commercial and federal farm-credit programs favor larger, conventional producers; (4) "FmHA's Limited Resource Loan Program," by the Center for Rural Affairs, explains a low-income farm loan program funded by the 1978 Agricultural Credit Act; (5) "Small Is Renewable: The Impact of Energy Policy on Farm Structure," by Roger Blobaum, describes different alternative energy programs supported by federal funds. Many of these programs target larger operations, but there is also federal support for projects appropriate to small farms; (6) "Selling the Small Farmer Short," by Allen Thompson describes current agricultural marketing systems and examines the potential for direct marketing by low-income farmers; (7) "Science in Whose Interest?" by Heather Tischbein, examines the benefits to agribusinesses of federally funded agricultural research; (8) "'From Seedling to Supermarket,'" by Al Krebs, discusses vertical integration in the food industry and the encroachment of corporate farming; (9) "The Hidden Link," by Peggy Borgers, shows how structural changes in agriculture affect nonfarm rural residents. (TES)

Perspectives on the Structure of American Agriculture

VOLUME II: FEDERAL FARM POLICIES

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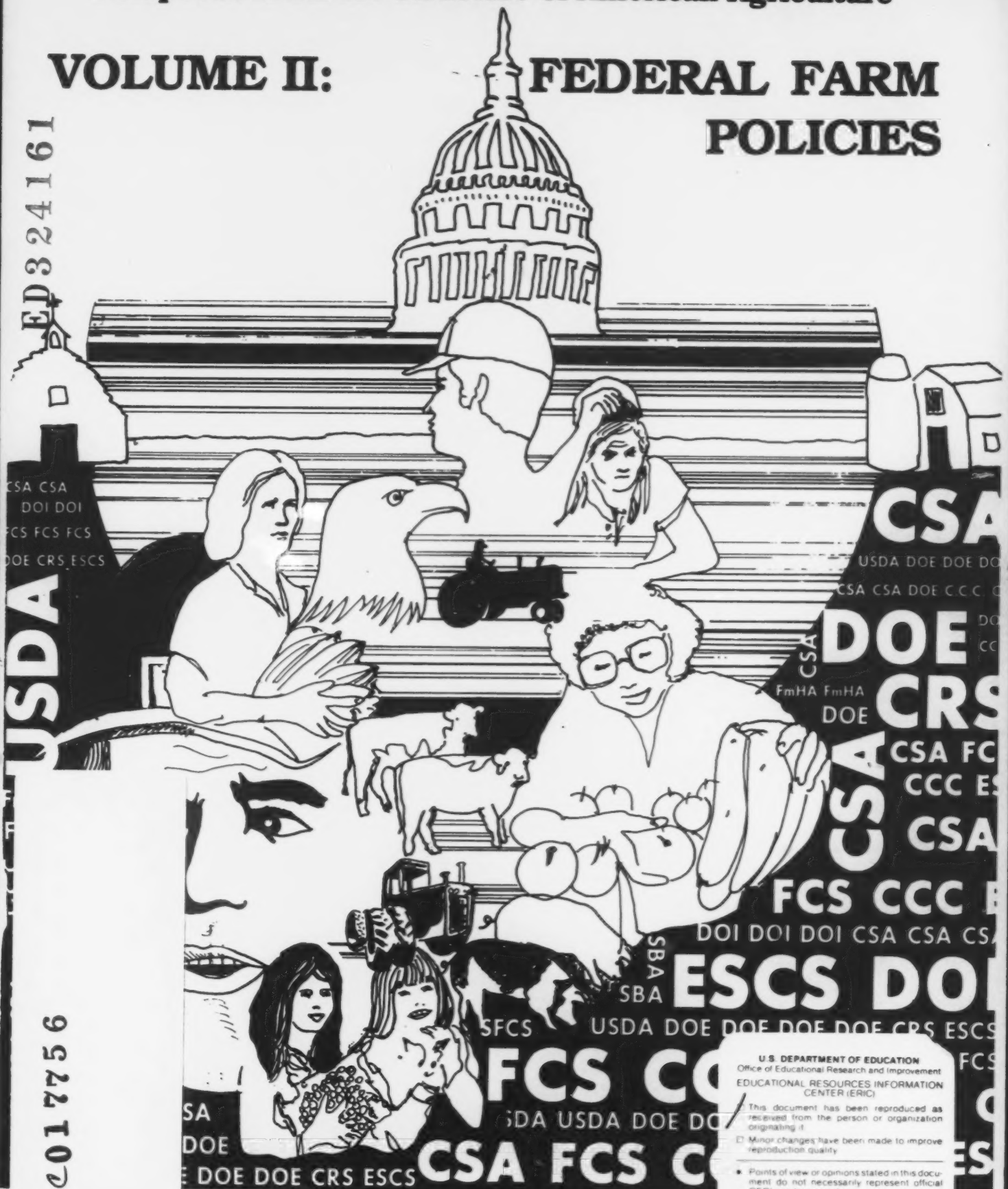

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Perspectives on the Structure of American Agriculture

Volume II: Federal Farm Policies—
Their Effects on Low-Income Farmers and Rural Communities

Kenneth M. Coughlin, editor

Prepared by Rural America with a grant from the Community Services Administration, as part of a U.S. Department of Agriculture inquiry into the "Structure of American Agriculture."

Spring, 1980

Cover art: Antonio Baraja

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Acknowledgements

Even in the case of modest efforts such as this one, there are many to be thanked.

First, there are the people who, on short notice, rearranged their lives in order to do the important staff work for the project: Peggy Wheeler, the staff coordinator, who brought a knowledge of agriculture and of groups and individuals around the country working on farm policy, without which this project would have been much more limited in scope; Harmon Hoff, who as research assistant contributed not only an intense dedication but also an enthusiasm that infected all of us; and Ken Coughlin, who did the editing and supervised the production with skill and admirable patience.

Special thanks are also due to John Buckstead, Mary Ellyn and Henry Hyde of the Community Services Administration, for their support, concern and invaluable suggestions.

Finally, there are the authors themselves, both those whose papers are collected here and those whose papers, for one reason or another, could not be included. Their cheerful willingness to contribute their time and expertise for small remuneration made everything else possible.

Peggy Borgers
Project Director

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Introduction

In March of 1979, Bob Bergland, Secretary of the U.S. Department of Agriculture, called for a "national dialogue" on the structure of American agriculture. Pointing to changes in farming—especially the trend toward concentration as the number of farms dwindles and their average size increases—Bergland raised some pivotal questions about the desirability of these changes and the role of public policy in bringing them about:

"Are those policies and programs . . . creating, or helping to create, something we *don't* want in American agriculture?"

"Are they in whole or in part responsible for an unending trend toward larger and larger and fewer and fewer farms that will increasingly dominate and control production?"

"Do they tend to help *most* those farmers who need help the least? And help *least* those farmers who need help the *most?*"

Bergland did not claim to have the answers. Instead, he launched a unique government/public inquiry that included ten regional public hearings to help clarify the issues and serve as a basis for upcoming revisions of farm programs, notably the 1981 farm bill.

The Community Services Administration (CSA) recognized both the importance of the national dialogue and the likelihood that low-income farmers would not be heard from without a special effort to guarantee their participation. Therefore, in keeping with its mandate to serve as an advocate for low-income people in those areas of federal policy that affect them, CSA asked Rural America, a non-profit group based in Washington, D.C., to ensure that the voices and viewpoints of the poor would not go unheeded.

With a small grant from CSA, the Rural Land Alliance of Rural America began attacking the problem from two directions. First, it encouraged low-income people to get involved in the ten regional hearings—collecting names of those willing to testify, helping them draft testimony and making sure they got on the program. Second, Rural America commissioned a series of background papers on various dimensions of agricultural policy and how they affect both low-income farmers and the rural poor.

These papers have since been collected, edited and published in two booklets under the general heading, "Perspectives on the Structure of American Agriculture." Taken together, the two volumes serve as a good introduction to the impact of national agricultural policy on the poor.

Volume I approaches the issue from a descriptive standpoint, while Volume II is more analytical. Entitled *The View from the Farm*, the first booklet deals with the special problems of minority and other low-income farmers, with an emphasis on the personal accounts of many who have struggled—both successfully and unsuccessfully—to gain a foothold in American agriculture. Brought to light are the problems of southern black farmers, who are increasingly becoming an endangered species; native American farmers, who hold title to vast tracts of land but are unable to farm most of it themselves; and Chicano, black and white farmworkers, who till the land for the profit of others. Among the personal accounts is the harrowing tale of a small organic farmer who was forced to fight for federal assistance because of his "unconventional" approach; the compelling remembrance of a black sharecropper's daughter whose family was finally thrown off the land; an explanation by a Nebraskan of why her family cannot remain in farming; and the thoughts of a former farmworker who organized a farm production cooperative in California, only to be denied access to federally-subsidized irrigation water.

In the second volume, *Federal Farm Policies*, experts in various fields analyze, from the standpoint of the low-income farmer, the federal agricultural programs alluded to in the first booklet. One paper, for instance, examines the effects on small farmers of agricultural price supports. Another questions the role of federal agricultural research. Alternative energy development for

farmers, marketing and sources of farm credit are also scrutinized. One paper is actually a brochure that explains how a new, low-income farm loan program works. The encroachment of corporations is treated in a chapter on vertical integration in the food system. And, finally, one paper shows how changes in the structure of agriculture have affected non-farm rural residents.

Still, the collection of papers is by no means complete; time prevented the inclusion of chapters on several important topics. Among the most glaring omissions are the issues of taxes, water policy, land, extension programs, women in agriculture and cooperatives. The decision to publish the finished papers in two separate volumes was, in part, based on a desire to underscore the gaps in the collection and to allow for the possibility of future volumes.

But given this, we believe the papers collected here can be a vital tool both for low-income advocates who are unfamiliar with agricultural policies and programs as well as for those who work with farm programs but do not know the impact these programs have on the less well-to-do. We are particularly proud of the personal papers of Volume I that bring to life points made in other papers. These are the voices of those directly affected (or neglected) by agricultural policy; these are the people to whom we should listen.

Peggy Borgers
Rural America
April, 1980

Agricultural Price Supports

I. A Primer on Current Federal Programs

The Center for Rural Affairs

There are currently three ways the government boosts sagging farm prices and each has an impact on how benefits are distributed. Here's a brief summary and analysis of each method:

Price Support Loans

The government puts a guaranteed floor under farm prices by allowing a producer to store his crop as security for a loan from the government. The farmer can still take the crop out of storage, sell it and pay off the loan if the market price for the crop goes above the loan price. Or, after a year he can let the government keep the crop in return for forgiving the loan. The loan price therefore becomes a floor under the free market price, since a farmer would never sell the commodity for less than what he could get from a government loan.

These loans are particularly important for policy because they influence the market price for commodities and drive up farm incomes without direct payments from the government to the farmer. But they also have an impact on foreign trade; if loan rates are above the world price for a commodity there would be no opportunity to sell U.S. crops overseas. For this reason, the current farm bill allows the Secretary of Agriculture to adjust the loan rates for wheat and feed grains downward if world markets drop.

The defect of price support loans is that it is impossible to equalize the distribution of benefits to large and small farmers. Since the loan program influences the market price of commodities, farmers benefit from the higher prices according to how many bushels of the crop they sell. The loan program helps farmers in proportion to the size of their operation.

Direct Payments

Since the 1960's the emphasis on the loan approach to price supports has been gradually replaced by an emphasis on direct payments to farmers. This shift was particularly evident during the 1970s when world food shortages created higher farm prices and reduced the requirement for production controls. Coupled with the need for U.S. food exports to offset the cost of oil imports, the higher prices of the mid-1970s created an all-out production mentality in the government.

A version of this primer appeared in the Winter, 1978 issue of New Land Review, *a publication of the Center for Rural Affairs, a non-profit organization located in Walthill, Nebraska.*

Under this program, direct payments are made to farmers if the market price for a commodity falls below a 'target price' set by government to cover the farmer's production costs. The amount of the payment is the difference between the market price and the target price times the number of bushels the farmer would have produced under the old production control system. Thus, if farmers produce more than domestic and export markets can consume, the resulting lower prices will be cushioned by the direct payments. Direct payments can also be made if natural disasters prevent a farmer from planting or harvesting the crop.

Since these payments are made directly from the government to the farmer on the basis of low market prices, they do not affect market prices themselves. Eventually, continuing low prices encourage cutbacks in production, thus lifting market prices and eliminating the need for more payments.

Since direct payments involve outright government aid to farmers, the distribution of benefits can be controlled simply by limiting the amount of payments a farmer receives. In fact, Congress has put some limits on payments in order to prevent the benefits from going primarily to larger farmers. Nonetheless, at their peak in 1972, more than 41 percent of the price support payments went to only 10 percent of the producers. And in 1977, Congress took a step further away from the even distribution of benefits by raising the payment limitation from $20,000 to $50,000.

Production Controls

Since the 1930s the government has tried a number of ways to encourage farmers to grow less when too much production forces farm prices down. The purpose of these production controls has been to limit the amount the government spends in direct payments or the amount of grain it has to store under the loan program. The most frequent method of achieving this is for the government to pay farmers to keep a certain amount of land out of production.

The problem with controls of this type is that keeping land out of production does not always reduce total production. Farmers tend to keep their least productive land idle, and they find ways to increase the yield on the acres they do cultivate—through the use of more fertilizer, for example.

Crops which are in chronic oversupply are sometimes put under marketing quotas, a form of production control that limits the amount of a commodity that the farmer can sell. This prevents the farmer from circumventing the system by boosting his yield. Usually quotas are imposed only if producers of a particular commodity vote for them, as they have in the cases of tobacco, cotton and peanuts. In Nebraska, quotas have been used regularly to restrict sugar production.

Production controls are always tied to particular commodities or to the land used to produce them. They reward land ownership, and the benefits from these programs disproportionately go to larger farmers and absentee landowners. Moreover, since its benefits are tied to the land, the program tends to increase land prices. These effects can be moderated by limiting payments; as indicated above, the current farm bill limits payments to $50,000 per farmer.

II. A Case of Non-Support

Price Payments and the Small Farmer

E. Phillip LeVeen

During the past year there has been a renewed interest in the structure of U.S. agriculture, and several new studies have been published. The most important among them are by the General Accounting Office (1978), the Congressional Budget Office (1978), and the U.S. Department of Agriculture (USDA)(1979). In addition, the National Rural Center commissioned several very interesting papers on small farms for a conference held in Lincoln, Nebraska in February, 1979. These studies underscore a theme that has been prominent in economic literature since the late 1960s, namely, that farm price and income support programs are inherently biased against small farms. Not only are most support payments given to the relatively few farmers who account for most of the crop production, but these policies have also encouraged the consolidation of production, thereby contributing to a decline in the number of farms and an increase in farm size. In this article, I plan to review the evidence for these conclusions and address some of the implications for policy reform.

A Brief Description of Farm Price Support Programs

Since the first Agricultural Adjustment Act of 1933, the government has supported farm incomes through programs that keep prices above the level permitted by the free play of market forces. Price supports have been used in most of the important crops—corn, wheat and other feed grains, rice, cotton, sugar, peanuts, tobacco and milk. Under these programs, farmers receive payments from the government in exchange for placing some of their land under soil-conserving uses. However, it should be made clear that not all agricultural commodities are supported in this way. Livestock producers are not covered by price supports, although they are protected by favorable import quotas. Likewise, fruit, nut and vegetable growers are not covered, although many of these crops are protected by state and federal marketing orders, the effect of which is to control supply and hence boost prices. This paper will concentrate on the basic price support or commodity programs, such as those affecting wheat and corn.

Over the past twenty years commodity programs have changed substantially, especially with regard to the control of production and the mechanisms for setting payments to farmers. The format for the current programs was developed in the Agricultural Act of 1973 and further refined in the Food and Agriculture Act of 1977.

The key concepts in this legislation are the "target price" and the "deficiency payment." Congress sets a target price for each crop at a level that will

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theoretically assure the average farmer enough revenue to cover his production costs, including a return on his own labor and investment in equipment and land. For example, the current target price for wheat is $3.63 per bushel and for corn, $2.35 per bushel.

If a farmer decides to participate in the government program—most do, although the choice is voluntary—he is guaranteed receiving revenue equal to the target price times his volume of production. For instance, suppose a farmer produces 5,000 bushels of wheat and when he takes it to market, he is able to sell it at $3.00 per bushel. If the target price is $3.60, he then will receive an additional $0.60 per bushel, or $3,000, from the government. This payment is called a "deficiency payment".

The farmer participating in the government program is eligible for other benefits. For example, at the beginning of the year he can borrow from the government against his future crop to obtain his operating capital. The interest rate at which he must repay the loan is highly subsidized, making this kind of loan, called a "non-recourse loan", highly desirable in comparison to a commercial bank loan. In addition, participating farmers are eligible for federal disaster insurance to protect them against weather-related crop loss, again at highly subsidized insurance rates. Finally, farmers are entitled to participate in the government's grain reserve program, under which they receive the storage costs for any grain they might hold off the market. Thus a farmer can take out a non-recourse loan at the beginning of the year, receive partial payment for his crop in advance and place the crop in storage at the end of the year, at little extra cost to himself. He can then play the market, hoping that prices will rise. Because he knows prices cannot fall below an established floor, as a speculator the farmer is in the enviable position of facing a situation in which prices can only rise.

The cost to the farmer of participating in the commodity programs is that he must be willing to "set aside" some of his acreage, as determined each year by the Secretary of Agriculture. This set-aside means a loss of production and hence lower total revenue and this loss must be weighed against the potential benefit of deficiency payments. Also, some programs pay the farmer a small sum for each acre of land diverted. Thus, the farmer must guess whether market prices will be sufficiently below target prices to warrant participation and land diversion. He must also estimate the value of the other program benefits. Between 1973 and 1975, market prices were so much higher than target prices that there was no reason for farmers to participate in government programs. 1980 looks like another period when market prices will exceed target prices; the government has already announced there will be no acreage set-aside this year.

How the Benefits of Commodity Programs are Distributed

Because program payments are tied to production, it follows that they will parallel the distribution of crop production. Since production is concentrated in relatively few farms (e.g., ten percent of the grain farms sell 40 percent of the grain and ten percent of the cotton farms sell about 55 percent of the cotton), deficiency payments are similarly concentrated. For example, in 1978 the largest ten percent of wheat, corn, and cotton producers received 50 percent, 40 percent, and 54 percent of total crop payments respectively (U.S.D.A., 1979; p. 182). The bottom 50 percent of wheat, corn, and cotton producers received 11 percent, 13 percent, and 7 percent of deficiency payments. Such skewed distributions are not very different from those measured by Bonnen (1968) and Schultze (1971) in the late 1960s. It might be added that although the most any one farmer may receive in deficiency payments is $50,000, this limit has had little impact on the distribution of payments since only a minute number of farms are large enough to warrant payments of this size.

But this skewed distribution does not show the most important impact these programs have on the small farmer, for the price supports confer very different benefits, per dollar of payment, on large and small farmers. That is, even though the small and the large farmer may receive the same amount from the government per bushel sold, the larger farmer receives a much greater relative benefit and is able to use this to eliminate the smaller farmer.

To see how this differential benefit works against the smaller farmer, we must first recall that the target price is based on an estimate of the costs of a typical producer. However, the average producer generally has higher costs than the well-established and larger farmer. That is, the established farmer

purchased his land and equipment at lower prices and interest rates than the new farmer. The larger farmer's costs are generally lower because of advantages in the use of technology and in the acquisition of inputs. Therefore, for these producers the guarantee of a target price set to satisfy farmers with higher costs implies surplus profits. On the other hand, there are many farmers for whom the target price is insufficient to cover their costs and they receive no surplus profits. If anything, the deficiency payments simply allow them to continue struggling to exist. This struggle is made more difficult when prosperous competitors receive the surplus profits.

To illustrate, USDA estimated the impact of various target prices on the profits of wheat and corn producers in 1978 (Penn and Boehm; 1978). It was found that at the prevailing target prices for that year, roughly 55 percent of wheat farmers, with 85 percent of wheat production, and roughly 45 percent of corn farmers, with about 83 percent of corn production, would earn at least enough income to cover all production costs and an allowance for family labor and management and a return on investment in land (valued at current market levels). Moreover, the majority of these prosperous farmers would make handsome profits. In wheat farming, for example, at least 10 percent of the farmers, with 20 percent of sales, would earn at least $1.00 per bushel above what was needed to cover costs and provide a competitive return on capital.

In addition to conferring large profits on a very few producers, price support programs have another important impact: they encourage prosperous farmers to invest in new technology and this increases the competitive pressures on smaller farmers. This point requires elaboration.

How Price Supports Have Encouraged Concentration in Farming

As mentioned above, larger farmers tend to have lower production costs and therefore higher incomes. The greatest advantage of the larger farmer is his access to labor-saving, mechanical technology—e.g., larger tractors, harvesters, and combines. This equipment allows the farmer to cultivate and harvest more land and so to produce more crops. The higher costs of the equipment and of the labor needed to run it is spread out over more land, so the cost per bushel of the crop produced is lower than for the small farmer. But it makes little sense for the smaller producer to buy such equipment unless he has the necessary land, for without the land the equipment fails to pay for itself. Thus the successful farmer is one who can acquire the necessary land and purchase the latest equipment. This implies a continuing and growing investment, especially as land and machinery costs rise. Access to credit is crucial to the successful farmer in making such investments, for even the most prosperous farmers cannot finance this growth out of their own savings. However, access to credit is difficult for the new farmer with little equity or for the farmer who is having trouble meeting his current commitments. Thus it is the already-prosperous farmer, with the collateral and the track record, who can obtain the necessary capital to grow even larger.

Such advantages tend to become cumulative; success breeds success. The large farmer who successfully expands his operation is able to purchase his supplies at lower cost. He will have an easier time finding a market for his crop. The largest farmers may be able to make use of futures markets, which offer the possibility of higher prices. All these advantages imply higher profits for the larger farmer compared to his smaller competitors.

This competition between farmers is sometimes described as a "treadmill". As a small number of farms grow larger and more profitable, two things happen. First, there is a tendency for crop prices to fall "relative to costs". This phenomenon is known as the "cost-price squeeze." Even though the government supports prices, as farming has become increasingly mechanized that level of support has tended to fall because costs have fallen. The successful producer who adopts new technology can still profit from this situation, but the farmer who fails to will find his income gradually shrinking. Eventually he gives up farming or his children will decide not to continue and the farm is sold.

Second, as a result of the pressures to grow larger and make use of cost-saving technology, prosperous farmers are willing to spend their excess profits to purchase additional land. In this way, land prices tend to rise as technology increases profitability. Rising land prices also encourage small producers to leave farming because they can reinvest their capital at higher rates of return outside of agriculture. Rising land values also make it difficult for young farmers to get started since the cost of a new farm has risen so high that it is exceedingly

difficult to raise the necessary downpayment.

This treadmill is inherent to U.S. agriculture and will remain a powerful force until labor-saving technology is no longer produced. Perhaps rising energy costs will eventually reduce this technology's power. In the meantime, however, farmers are being forced out of agriculture at the rate of about 1.5 percent each year. But for our purposes it is important to note how this treadmill is speeded up by price support programs. By keeping prices above their free market levels, they have placed greater profits in the hands of the larger farmers than otherwise would have come their way.

Price supports have yet another effect: they *stabilize* prices. Stable, predictable prices are crucial to the operation of the treadmill. Farming is, as is well known, a very risky undertaking. In the days before price supports, risk derived from unpredictable price movements as well as from unpredictable crop yields. Government policies have had the effect of cushioning this first risk, for with price supports, farmers know in advance their minimum price. Since the race for new technology and for larger farms involves investment in new and unknown devices, the expanding farmer puts himself in a vulnerable position by incurring a large debt. A couple of bad crop years may force him into bankruptcy. Expansion is not a guarantee of success, but the commodity programs, with stabilized prices and cheap crop insurance, have eliminated much of the fluctuation in the farmer's income. Consequently, the expanding farmer is not in as vulnerable a position when purchasing expensive equipment. Therefore expansion and investment have accelerated. This public support of private risk which commodity programs have fostered has increased mechanization and hence meant larger farms and more concentrated production.

It might be further noted that the traditional way farmers coped with price and yield fluctuation was to diversify crop and livestock production. For example, wheat and livestock prices tend to move in opposite directions. Price stabilization has allowed farmers to specialize in one or two crops; it has also encouraged the adoption of a few large, labor-saving machines and means added incentive for increasing farm size.

This discussion of price stability may seem tangential to the issue of farm size, but we should note the following conclusions of two agricultural economists who simulated the effect on farm structure of no commodity price supports between 1954 and 1968. Had there been no price supports during that time, these economists concluded that by 1968 labor productivity would have been about 11 percent lower than it actually was; agricultural incomes would have been about 6 percent higher; there would have been 24 percent more farms; and the average farm would have been about 20 percent smaller (Nelson and Cochrane, 1976). This simulation implies that government price support policies encouraged investment in agricultural technology to such an extent that they alone accounted for the demise of about 720,000 farms during this 15 year period, and accounted for an increase in the average farm size from about 300 acres to about 380 acres. In sum, while the forces driving the agricultural economy toward larger farms had much to do with labor-saving technology, these forces would have worked more slowly in the absence of price support programs. The small producer, then, has been dramatically affected by these programs.

Implications for Policy Reform

It is, of course, far easier to analyze problems than to propose solutions, but the above analysis suggests several principles on which to base better policies.

First, I feel the small farmer would be better off with no price support program than with the present system. Most small farmers disagree, pointing to their annual checks from the government as the difference between survival and bankruptcy. But considering the long-term impact of price supports on competition, small farmers are worse off in the long run. The price supports are giving their larger competitors even greater leverage with which to force small farmers out of business.

This does not mean, of course, that without price supports there would be no concentration in agriculture. On the contrary, given the vast differences between large and small farmers, a long period of depressed prices would certainly drive both the large and the small out of farming. The point is that this would be equally disruptive to many large producers who have recently purchased high-priced land and have incurred large debts.

If eliminating price supports would not halt the economic forces contributing to concentration, it

might well slow the process. But small farmers would still be forced out of farming. It is estimated, for example, that using existing technology as few as 300,000 farms could supply our current demand for agricultural commodities. Today, there are about 2.4 million farms. There is obviously considerable incentive for still more consolidation in agriculture. But given that our society places a value on an agrarian economy composed of numerous smaller farms, the question is what can be done to stop the continuing loss of farms?

The answer is simple to state, though difficult to carry out: there must be some equalization of advantages between large and small farms, thereby removing incentives for consolidation. This means making a commitment to the small farm an explicit goal of agricultural policy and *it means different policies for different sized farms.* If there is one lesson to be gleaned from the above analysis, it is that the same price for large and small farmers has vastly different effects on the welfare of each. If we are to equalize the effects of policy, then price support levels must be based on size.

I favor a policy that provides no support to large farmers. These producers should be cut free of all government benefits and allowed to live with the uncertainties of the free market (of which they are so fond, judging by their rhetoric). Price supports could begin and gradually increase for each successively smaller size farm. Support levels could be established that would eliminate the advantages of size while still providing an acceptable income for farm families. Such a policy is not without precedent. Norway, for instance, has a point system for setting prices. Farmers receive more points if they are small, produce low-value crops, and live far from markets or in less productive regions. These policies are intended to preserve the small farm and keep the rural population dispersed, and they apparently work. (See, for example, OECD, 1975.)

Implementing such a policy in the U.S. would present political and technical difficulties. Certainly any policy that rewards one producer over another would be challenged as unconstitutional, even though the implicit effect of current policy is to treat producers differently. My experience with agricultural politics suggests that even smaller farmers would not support such a change in policy, perhaps out of the mistaken belief that one day they too might become large. Farmers generally do not want constraints placed on their capacity to expand and grow rich. I see no way out of this dilemma short of a massive educational campaign to make farmers aware of how competitive forces shape their future. Even this would be difficult, given the ideological forces now dominating American agriculture.

My proposed policy would also present technical problems. How are price differentials to be established? Who is going to set the criteria? How do we treat the part-time farmer, who continues to make up a larger and larger portion of all farmers? There are answers to these questions, but they depend on the policy goals one establishes. For example, we must first decide what farm sizes we want to preserve before we can determine the price levels that would be required. We must also recognize that such policies would not be without cost to the public treasury; the smaller the farm we want to protect, the greater these costs will be. There may be much larger, offsetting benefits from such policies, and these must be assessed before we can make rational decisions.

Finally, I would point out that price policies are not the sole public contributor to concentration in agriculture. Much publicly-supported research has helped develop the technology that forces the displacement of farmers. Tax policies, meanwhile, reward wealthy investors and certainly contribute to the trend toward larger farms. In particular, capital gains tax incentives encourage investment in farmland, especially during periods of inflation. In so doing, they contribute directly to the problem of rising land values, which prevents new farmers from gaining a foothold in agriculture and which encourages well-established farmers to sell out. Reform of support policies is not enough; any effective farm policy must deal with all the incentives contributing to increasing farm size.

I would like to make one final observation. The issue of farm size is sometimes characterized as a conflict between the family farmer and the absentee-owner who runs a farm with hired labor and management (i.e., the corporate farm). There is reason to be concerned with the corporate farm, but I think seeing the issue as one of family versus corporate agriculture misses the point. Corporate farms, like family farms, must abide by the basic laws of competition. Farming is still highly competitive, even for the large farmer. In most regions of the country, the small farm is being displaced by a family-owned and operated large farm, not by a corporate farm. This is less true of specialty crop producers in states such as California, Arizona, or Florida; but in the Midwest,

where the majority of our farms are located, family ownership and labor is still predominant. The competitive struggle has prevented the corporate farm from making inroads in this region, for the family farmer is generally willing to work for less than the corporate farm owner. I see no reason for this pattern to change in the next several years. The real issue then, is not whether we want family instead of corporate agriculture, but whether we want large family farms or small family farms. Laws enacted to prevent corporate ownership of land, such as those that have been passed by several midwestern states, will have little effect on concentration in agriculture because the major impetus for this concentration is coming from successful family enterprises.

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Who Gets the Credit?

How the Farm Financing System Helps the Big Producers and Bypasses the Small

Michael Schaaf and Thomas Dowling

Abstract

Different farmers have different credit needs. The agricultural credit system provides short-term financing principally through commercial banks and the Production Credit Associations, while long-term credit is usually extended by the Federal Land Banks and individuals. These institutions tend to favor larger, high equity borrowers who produce and market conventionally. The Farmers Home Administration (FmHA), the government agency mandated to provide credit to those to whom it is not otherwise available, has fallen short and has favored larger producers, and the credit needs of many small farmers have been neglected.

This greater availability of credit to certain producers has helped shape an agricultural structure dominated by large, capital-intensive farms that continue to concentrate resources and control at the expense of smaller operators. Meanwhile, non-farm investors who are buying up farmland are expanding their economic influence, frequently with government-backed financing. The purchases of these investors cause the decline of the family-owned farm. This credit shortage for some farmers and the ready availability of credit for others has resulted in the creation of an elite group of food producers. On a societal scale, this inequity is laying the groundwork for agricultural instability, dependence on government support and lack of variety and adaptability.

Credit and the Small Farmer

Credit allows the farmer to buy what are known as 'inputs'—things like farm equipment, fertilizer and seeds— when he needs them, not just when he has the capital to buy them. The uses of credit are as varied as the range of inputs farmers require. Short-term credit—a loan that must be repaid within the year—covers the cost of such annual necessities as animal feed, seed, fertilizer and seasonal labor. Medium-term loans—lasting one to seven years—finance equipment and machinery, the replacement of livestock, construction of farm buildings and minor improvement projects. Long-term loans—extending up to forty years—finance real estate investments and large capital improvements.

Although farmers need credit for the same basic reasons, they have different financial resources and come from different backgrounds. Therefore, they are treated in different ways by both public and private lending institutions.

These resources—a farmer's equity in the form of dollars or land—influence how big a loan he needs

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as well as how much he is offered. If he chooses, he can liquidate his equity and borrow only a small amount. On the other hand, he can offer his equity as security for a much larger loan. Smaller farmers with limited equity have little to offer the lender as security, and this affects the farmer's chances of securing a loan.

The crux of the agricultural credit issue is this: unless credit is offered under a variety of terms and conditions, agriculture cannot support a variety of farming styles. Those farmers who find that the credit offered by finance institutions suits their needs will thrive; those for whom it does not will fold. In other words, credit offered under a narrow range of conditions supports shifts in the agricultural structure that favor the needs of financed farms, while hindering the operations of those to whom the banks' doors are closed.

For our purposes, there are two dimensions to the credit system: what kinds of farmers are now receiving credit; and what impact these credit allocations are having on the structure of agriculture, and on small farmers in particular.

We will begin with a section describing the roles and programs of the major agricultural lenders, followed by an examination of who is now receiving credit. Finally, the impact of the credit system on small farmers will be discussed.

Sources of Credit

Agricultural loans fall into two general categories—those using real estate as collateral, and those based on other collateral. Real estate debt usually finances expensive farm purchases, while non-real estate debt covers the short and mid-term operational costs mentioned above.

Non-Real Estate Debt

The main suppliers of loans based on non-real estate collateral are commercial banks, Production Credit Associations (PCA), dealers or merchants, the Farmers Home Administration (FmHA) and the Small Business Administration (SBA). Table 1 shows the market shares of these sources of operating and mid-term capital; figure 1 illustrates their interest rates over the last ten years.

Table 1

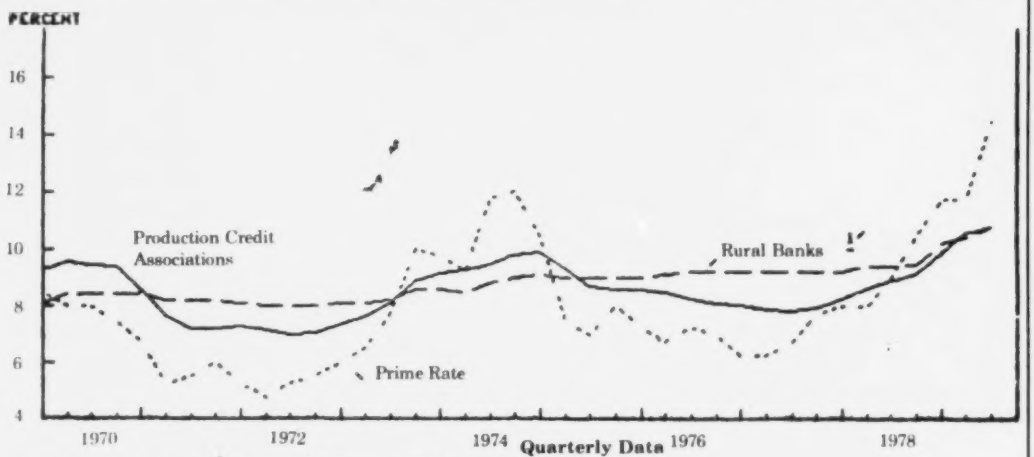
Non-Real Estate Farm Debt*

Year	Commercial Banks	Production Credit Assn	Federal Intermediate Credit Banks	FmHA	Individuals & others	SBA	Total
			(in millions of dollars)				
1970	10,330	4,495	218	785	5340		21,168
1975	18,238	9,519	374	1044	6050		35,226
1980	30,400	17,570	650	9900	9720	2000	70,240
			percentage distribution				
1970	43.3	18.9	.9	3.3	22.4		
1975	51.3	26.8	1.1	2.9	17.0		
1980	40.7	23.5	.9	13.2	15.7	2.9	

*excludes Commodity Credit Corporation loans

Source: Agricultural Finance Outlook, USDA, 1979

Fig. I: Interest Rates on Non-Real Estate Farm Loans, and the Prime Rate Charged by Banks



1/ Short-term Production Loans Minneapolis Federal Reserve District.

Source: Agricultural Finance Outlook, USDA, November 1979

Commercial banks are the main source for credit of this kind because of their accessibility and their capacity to provide a full range of banking services. They offer one-year loans for operating costs and intermediate-term loans for machinery and equipment.

But the role of commercial banks in both real estate and non-real estate lending has declined in recent years. The fact that bank interest rates have tended to exceed those of other lending sources has undoubtedly helped slow demand. Also, banks serving rural communities are, for the most part, small and dependant on local deposits for most of their loanable funds. While both the value of farm assets and the demand for credit have risen sharply, farm incomes have advanced more slowly—growing only 36 percent from 1960 to 1974 (Motley, 1976). As a result, many rural banks have reached the limits of their lending capacity.

Forty-one percent of rural commercial banks that were surveyed by the U.S. Department of Agriculture's (USDA) Economics, Statistics, and Cooperatives Service in 1979 reported that their loan-to-deposit ratios were higher than they preferred. Many rural banks, moreover, have found that the credit needs of a single farm can exceed the limits that banking regulations or a prudent risk policy dictate for individual loans. And, as large farmers have turned to competing credit sources, many rural banks reportedly are placing less emphasis on reviewing farm loan applications and servicing loans, which further aggravates the situation (Motley, 1976).

Meanwhile, the Production Credit Associations which, along with the Federal Land Bank Associations (FLBA) and the Bank for Cooperatives, make up the Farm Credit System—have taken up much of the slack in the non-real estate debt market. Unlike commercial banks, the PCA's credit supply does not depend on rural incomes. Each branch of the Farm Credit System is a financing cooperative owned by borrower-members (through required stock purchases) who also elect the local association's Board of Directors (Ellison, 1978). The more than 400 offices of the PCA obtain their lending funds from Federal Intermediate Credit Banks, which raise capital in the national market.

The PCA extends credit to farmers, fishermen, rural residents, and farm-related businesses. Loans of one- to seven-year terms supply working capital and help finance operating expenses and equipment and livestock purchases. Repayment plans are designed to accomodate the borrower's cash flow. The interest rate, which in the summer of 1979 was 11 percent, varies with the type of loan and the cost of raising money through the Federal Intermediate Credit Banks (Rao, 1979).

Another important source of operating credit for farmers is supply merchants and equipment dealers. Credit for seasonal needs such as feed and fertilizer is frequently extended by these merchants under informal arrangements that do not neccessarily include interest charges (Richardson, et al. 1979). Most manufacturers of farm machinery,

through their dealers, have financing plans for their farm customers using either a bank or another credit institution, and the largest firms extend credit directly. Loans made by the six largest equipment dealers rose more than 200 percent between 1970 and 1979 (USDA, AFO, 1979).

Although they account account for only a fraction of total non-real estate debt, FmHA's lending programs are significant because they make low-interest loans to farmers who cannot secure credit elsewhere. FmHA also offers its borrowers technical assistance and loan supervision programs to help strengthen their ability to secure conventional financing and insure FmHA against loan default. FmHA makes both insured loans directly to the borrower and guaranteed loans which are funded and serviced by a conventional bank, but which are guaranteed against default by FmHA. Three FmHA programs supply this kind of capital: the Operating Loan Program; the Emergency Disaster Loan Program; and the Economic Emergency Program.

The Operating Loan Program, budgeted in 1980 for $875 million, extends loans with terms of from one to seven years to eligible family farmers. A county or area committee made up of three persons "who know local farming and credit conditions and what it takes to succeed" judge an applicant's suitability for participation in the program.

The largest Operating Loan is $100,000. Interest rates depend on the cost of borrowing money from the U.S. Treasury, but they are below the rates of other lenders. In March, 1980, the interest rate on FmHA operating loans was 11 percent (USDA, AFO, 1979).

To expand FmHA's role as an alternative to other credit sources, Congress created the "limited resource farmer" loan program in 1978. Described by one Nebraska farmer as "a ray of hope to many of the low-income farmers who have become the victims of our farm programs" (Subcommittee on Conservation and Credit, 1979), the program permits the use of a portion of each state's Operating and Farm Ownership Program budgets for farmers and cooperatives with limited resources, income or management experience.

It is the conditions under which this credit is offered, however, which make the program so important to small farmers. First, interest rates that are below market levels are available to participants. As of March, 1980, these rates were 7 percent for operating loans. Second, deferred payment schedules can be worked out to ease the beginning or expanding farmer's financial burden. Third, loans are accompanied by a technical assistance program that advises farmers on financial and farm management matters. Around $206.25 million will be available under the program in 1980.

But FmHA's share of non-real estate debt has grown in recent years mostly because of expanded lending under the agency's two emergency loan programs—the emergency Disaster Loan Program and the Economic Emergency Loan Program. Through the Emergency Disaster Loan Program, borrowers whose crops and property have been damaged in a natural disaster can obtain fresh operating capital, but to gain assistance, borrowers must have access to no other credit sources.

The duration of the emergency loans varies, with a maximum term of forty years. The interest rate for loans on actual damages is 5 percent and for losses exceeding the amount of damages it is 14 percent. The size of these loans ranges between $500 and $64,000,000; in 1979, the average loan was $32,944 (Rao, 1979).

The Economic Emergency Loan Program, on the other hand, finances farmers affected by "the economic emergency which has caused a lack of agricultural credit, due to national or area-wide economic stress, such as general tightening of credit or an unfavorable relationship between production costs and prices received for agricultural commodities" (Maine FmHA, 1979). These loans finance both operating costs, the purchase of land and the refinancing of debt. As of March, 1980, interest rates for this program were 12 percent (USDA, AFO).

Funding for both emergency programs far exceeds that of regular FmHA farm ownership and operating loan programs. In 1977, FmHA provided $1.2 billion in natural disaster credit and this ballooned to $3.4 billion in 1978 as a result of the severe drought of 1976-77 and Congressional lowering of the program's interest rate. Meanwhile, the Economic Emergency program, established in 1978, was funded through May 1980 at $4 billion.

The Small Business Administration (SBA) is another agency that has become more active in agricultural lending through low-interest, emergency loan programs. This agency began making loans to farmers in 1975 to help finance operating expenses, equipment purchases and real estate

transactions. Limits on SBA loans are $50,000 while guaranteed loans carry a limit of $350,000. The interest rate on these loans averaged 6-8 percent in 1976.

SBA's role in agricultural lending remained a small one, however, until 1978, when a farmer's crop losses were judged eligible for SBA Disaster Loan Programs. Consequently, SBA lending jumped from $.3 billion in 1977 to $1.7 billion in 1979, as farmers of all types flocked to obtain its low-income loans which are offered without a "no credit elsewhere" rule (General Accounting Office, 1979).

Table 2

Real Estate Farm Debt						
Year	Federal Land Banks	Life Insurance Companies	Commercial Banks	FmHA	Individuals and others	Total
			(in millions of dollars)			
1970	6,671	5,734	3,545	2,280	10,953	29,183
1975	13,402	6,297	5,966	3,215	17,408	46,288
1980	29,540	11,900	8,972	4,400	28,310	83,122
			percentage distribution of debt			
1970	22.9	19.7	12.1	7.8	37.5	
1975	29.0	13.6	12.9	6.9	37.6	
1980	35.5	14.3	10.8	5.3	34.1	

Source: Agricultural Finance Outlook, USDA, 1979

Real Estate Debt

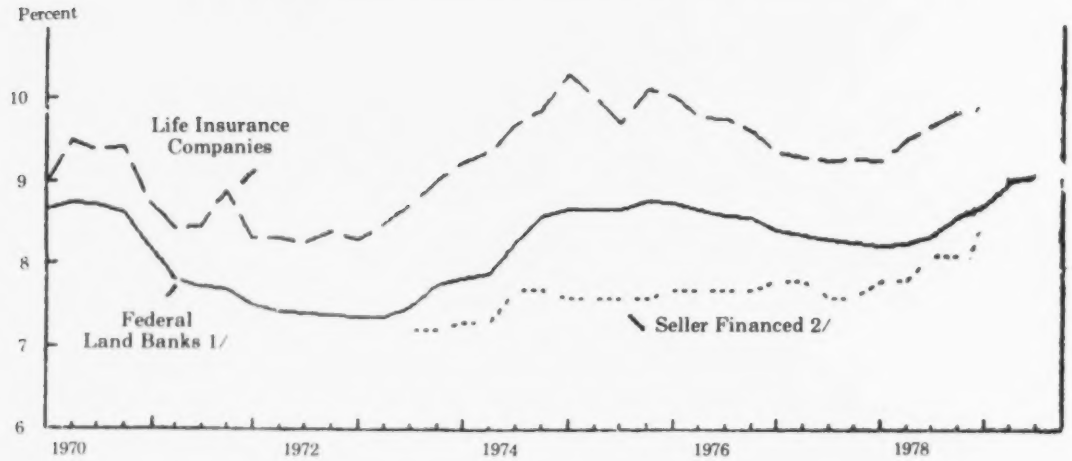
As for debt that is secured by real estate, the bulk of it is financed by individuals, the Federal Land Bank, life insurance companies, commercial banks, and FmHA . Table 2 gives a breakdown of how these loans are distributed according to lender. Figure 2 shows the interest rates charged by lenders over time.

The role of the Federal Land Banks (FLB) in financing this type of loan has grown substantially in the past decade. Like a PCA, an FLB is cooperatively owned and managed by its borrowers and receives loan funds from the national money market. Eligibility guidelines for an FLB loan are the same as those for PCAs. The FLB can make mortgages up to 85 percent of a property's value at varying interest rates. The maximum repayment term is forty years.

Individuals also remain a primary source for mortgage loans. These are often retiring farmers who accept a down payment from a prospective purchaser and agree to a schedule of further payments. When the purchaser is unable to afford a down payment and contracts are used, the original owner retains title until the purchaser's payments reach a specified fraction of the property value. Interest rates on farm-seller mortgages were about 8.3 percent in February 1979, but have undoubtedly increased since then. The higher interest rates now charged by financial institutions for real estate loans encourage more seller-financed mortgages.

In recent years a small number of insurance companies have become aggressive lenders in agricultural real estate. Currently, eight companies

Fig. 2: Interest Rate on Farm Real Estate Loans



Quarterly data for Life Insurance Companies (new commitments) and Federal Land Banks (new loans). Semi-annual data for Seller financed. Latest rates are 9.8 for Life Insurance Companies in 4th quarter, 1978, 9.3 for Federal Land Banks in October 1979 and 8.3 for Seller financed in February 1979.

1/ Excludes cost of required stock purchases.

2/ Financing of the sale is provided by the previous owner of the farmland.

Source: Agricultural Finance Outlook, USDA, 1979.

account for 87 percent of the insurance industry's outstanding agricultural loans. But life insurance companies will usually make only first mortgages on only 70 to 75 percent of the property's value (Richardson, et al. 1979).

As in the case of short-term loans, real estate financing by commercial banks is declining. Because of their reliance on short-term sources of loanable funds, rural banks traditionally have favored shorter term mortgages that are used by farmers to expand their holdings. Much of the long-term lending by banks nowadays represents a shift from short-term lending to long-term loans that are for home real estate rather than the purchase of land (Motley, 1976).

Under a program similar to its Operating Loan Program, FmHA makes guaranteed and insured real estate loans to family farmers and cooperatives to buy, improve or expand their farms.

Eligibility standards for applicants are similar to the Operating Loan Program, stressing the farmer's inability to obtain financing elsewhere. The program offers insured loans of up to $200,000 at below market interest rates, and guaranteed loans of up to $300,000, with a maximum repayment term of forty years. About $205 million of the Farm Ownership program's $870 million budget will be reserved for limited-resource farmers in 1980. These loans are made at 5 percent interest.

Who Gets the Credit?

Data describing who creditors lend to—in terms of sales, income, or crop type—is largely unavailable. But overall, it is clear that large farmers have the greatest access to credit as indicated by their high debt-to-asset ratio, which shows how much of their assets are tied up in loans, and some general conclusions regarding who is receiving credit can still be drawn from the available data.

Farm Credit System banks appear to lend primarily to well-established, well-to-do farmers. The system's eligibility requirements stress the importance of a good financial history, farm management experience and sound cash flow. This finding is corroborated by a review of the Federal Land Bank's lending practices in California conducted in 1977 by the Family Farm Viability Project. It was found that 26 percent of the California FLB's loans went to farmers with annual

incomes over $650,000, while farmers with incomes of less than $25,000 garnered only 13 percent of the loans. The average loan going to the larger income group was $545,000, eleven times the figure for the lower income group. The same study found that while PCA makes many small loans, the bulk of its loans are to farms with annual incomes of over $50,000.

Insurance companies favor larger farming operations to an even greater degree. The average loan size made by life insurance companies during 1977 was 277 percent larger than the average loan made by FLB that same year. The life insurance companies' emphasis on large farm lending is perhaps attributable to their national focus. Agricultural investments must be as profitable and secure as investments in other sectors of the economy. Such security is obtained in part by requiring down payments of up to 25 percent—a requirement many beginning or low-equity farmers find impossible to meet.

Commercial banks surveyed in California also disclosed a cautious lending policy; common reasons for rejecting applications were "lack of sufficient capital, lack of a second source of payment, poor credit history and inexperience with farm management."

A high demand for farm credit coupled with sluggish farm income has prompted some commercial banks to drastically reduce their agricultural lending. As they lose their expertise in this field, these banks become even more cautious, favoring secure applicants with well-established operations.

Rural banks wishing to continue agricultural lending can obtain sufficient funds through correspondent relationships with other banks—usually more richly endowed urban institutions. The tradeoff is that many of these corresponding banks have introduced new agricultural lending practices which affect credit distribution. For example, Continental Illinois National Bank and Trust, which has correspondent relationships with 43 percent of the banks in Iowa alone, encourages farm management practices that increase a farmer's dependence on bank financing. At an educational seminar for farm customers, the bank's spokesman—a former corporate manager for Ralston Purina—observed:

> The future farmer must be expansion oriented, otherwise he won't survive . . . You must become a capital manager and switch from labor-oriented operations to a capital-intensive operation . . . Survival of the family farm is beside the point—management survives, not farms.

Not once during the seminar was any end other than profit discussed (Elements, 1977).

However, FmHA and, to a lesser extent, SBA, specifically provide low-interest, affordable credit to farmers who do not qualify for credit elsewhere. Consistent with the agency's goal to "target its resources to the maximum extent feasible to the most distressed rural people and communities," the national FmHA office has directed that in each state "at least 25 percent of the Farm Ownership and the Operating Loan funds be reserved for loans to limited resource applicants, and at least 2 percent be reserved for loans to women."

Last year, the federal Office of Management and Budget attempted to overrule FmHA on this 25 percent set-aside for low-income farmers during the drawing up of the 1980 budget, but fortunately Congress stepped in to preserve the fledgling program. Still, FmHA's efforts to aid low-income farmers fall short of the agency's original mandate to serve primarily as a lender to low-equity farmers. At present, the limited resource program is only a small part of FmHA's expenditures. In 1979, only $450 million of its $8 billion farm program went to limited resource borrowers; $1.2 billion, meanwhile, went to business and industry. A brief look at these other lending programs and at problems with the limited resources program itself suggests that FmHA is doing less than it could to support low-income farmers.

A General Accounting Office (GAO) report on FmHA's implementation of the disaster loan program, which expanded so dramatically in 1978, found that the requirement that applicants be unable to secure financing from other sources "was widely ignored or received only cursory attention" from local FmHA offices. The GAO also reported that the average recipient of an FmHA disaster loan had a net worth of $180,000 and a farm averaging 750 acres—hardly a distressed rural resident. Noting that the average recipient of an SBA disaster loan had a farm of 849 acres and an annual gross income of $101,515, the GAO observed that "many borrowers, in our opinion, could have financed their operations with their own resources

or through lending institutions."

In addition, the GAO found that many emergency loans were used to pay off PCA debts or were reinvested by the recipients. The report concluded that "little or no assurance exists that disaster assistance loans are not used in frivolous ways, particularly by wealthier borrowers."

Experiences with the limited resource loan program have pointed to problems with FmHA programs at the grassroots level. Despite widespread enthusiasm for the program, FmHA has failed to publicize it. A participant at the convention of the National Association of Landowners reported that when a speaker asked an audience of 400 black growers how many had heard of the limited resource loan program, only sixteen raised their hands. Additionally, in 1977 only 2.3 percent of the agency's Farm Ownership loans were given to minorities. The national office also admits that failure to conduct outreach programs has hampered the implementation of the Operating Loan program (Subcommittee on Conservation and Credit, 1979).

The reticence of local FmHA officials to publicize the limited resource program is perhaps attributable to the additional burden it places on an already overworked staff. Indeed, a study commission found that in Maine FmHA generally "does not have the personnel capabilities to provide farmers with sufficient technical assistance instrumental in improving farm management." (Maine FmHA 1979)

But it has also been charged that local FmHA personnel are biased against small or innovative farmers and that there is a good deal of philosophical variation from local office to local office. The background of the particular FmHA staff and local FmHA county committees has a great impact on the local office's lending policies. At recent testimony before the Committee on Agriculture, U.S. House of Representatives, John Vlcek of the Agricultural Marketing Project stated:

> In Tennessee and some other states in the South, the farmers on these boards will generally be the largest grow-crop operators. They are not going to be as sensitive to the needs of the small farmers, particularly fruit and vegetable producers, and particularly the black farmers, as they might be . . . So when somebody comes in and says, "I want to start or expand a small operation that relies on fruit and vegetable production," . . . they are told, "Well, we just don't have loans for that kind of operation."

At the same hearings, a spokesman from the Center for Rural Affairs, located in Walthill, Nebraska, testified to "a sort of pernicious attitude at the local level of FmHA":

> . . . one limited resource applicant who appealed his rejection for a farm ownership loan came under intensive pressure to withdraw his appeal. Among other threats, he was told by the District Director for his area that his eligibility for an operating loan, which had been approved by the County Committee, would be "delayed" or overturned if he persisted in the appeal.

Other, similar complaints were heard at the hearings.

To sum up, then, private credit institutions appear to prefer to finance large, high-equity farmers who grow established commodities and can generate sufficient income to pay high interest rates. Meanwhile, a credit gap exists for farmers who have neither high equity nor well-established farming credentials, or who use unconventional farming techniques or markets, or who are just beginning to farm.

For the small farmer, FmHA is an important source of credit. The fact that there was a 2.6 year backlog of applications for the Farm Ownership program in California in 1977 indicates both a strong demand nationwide for the agency's credit and a lack of adequate funding.

This makes FmHA's bias against those left out of the credit system all the more serious. Furthermore, special services supportive of small, limited resource farmers are frequently neglected. Evidence regarding the agency's emergency loans suggests that the target population—distressed rural people and communities—is not the sole beneficiary of FmHA's services. To be sure, FmHA closes some of the credit gap, but many needs remain unmet.

The Uses of Credit

Dramatic changes in the agricutural economy

have taken place over the past four decades, and the availability of credit has been related to many of these changes.

The current capital spending and land price boom in agriculture have been financed by credit to an extent not witnessed since 1920. As Table 3 shows, mortgage debt has substantially increased since 1950, while the number of farms has decreased and the average size of a farm has increased. A typical pattern has been the purchase of neighboring farms by successful farmers. Without credit, this would have occurred at a slower pace. The growth in the purchase of farm real estate suggests that credit is critical.

The size of a farm is only one indication of the growth in farm assets. Different kinds of supplies and equipment are needed to operate the large farms, and Table 4 illustrates the growth in these capital-intensive items. The ready availability of credit has allowed the adoption of these production methods.

Table 3

Number and Size of U.S. Farms in Relation to Their Use of Mortgage Debt

Year	No. of farms (in 1000's)	Average size (acres)	Farm mortgage debt (in billions)	pre-acre value of land & buildings (in dollars)
1950	5647	213	5.6	65
1955	4654	258	8.2	85
1960	3956	296	12.1	116
1965	3351	339	18.9	146
1970	2944	373	29.2	195
1975	2487	426	46.3	341
1979	2366	443	63.6	490

Source: Farm Real Estate Market Developments, USDA.

Table 4

Indexes of the Use of Selected Farm Inputs, 1950 to 1976 (1967=100)

Year	Labor*	Real Estate	Mechanical Power	Fertilizer & Pesticides	Feed, Seed & Livestock
1950	217	105	84	29	63
1960	145	100	97	49	84
1970	90	98	100	115	104
1975	80	93	112	127	100
1976	78	94	113	141	107

Source: Donald Durost and Evelyn Black, *Changes in Farm Production and Efficiency*, U.S. Department of Agriculture, Statistical Bulletin, No. 581, November 1977, p. 57.

*includes hired, operator and unpaid family labor.

Once cost-reducing technological innovation is adopted by some farmers, a trend is set in motion that compels other farmers to follow suit or accept lower incomes as prices for crops fall. Due to this increased reliance on capital-intensive inputs such as machinery and fertilizer, net farm income as a proportion of cash receipts has declined. A farm commentator perhaps best explains the effects of technological change:

> Still, after decades of growth in the size of farm machinery and farm size we're waiting for their promises to come true. Bigger machinery has brought bigger expenses and a need for bigger farms and more investment in land. Bigger investments and bigger farms has brought, not security and free time, but bigger worries, sleepless nights, more eighty hour weeks, and, of course, fewer farms. (Hassebrook, 1979)

As farms and farm assets grow, the control of these assets is becoming more concentrated. Not only do the largest farms use more credit, but they also control more assets far in excess of their share of the total number of farms. Although farms with sales greater than $40,000 comprised only 19 percent of all farms in 1977, they controlled 52 percent of all farm assets and shouldered 70 percent of all the debt capital credit. USDA economist David Lins observes: "Since the total returns to investment in agricultural assets have substantially exceeded the costs of borrowed funds in recent years, the firms which are most heavily leveraged have been growing at the fastest rate. Thus, the availability of debt capital plays a major role in facilitating and encouraging a concentration of resource ownership and control in large farms." (Lins, 1979)

Concentration in farming also comes because of vertical integration, where two or more stages of production are linked through ownership or coordination. These arrangements tend to be attractive to lenders since risk is minimized. Livestock farms, for instance, are most highly integrated and concentrated in large farms and they also tend to be the farms that rely most heavily on credit. Livestock farms with more than $100,000 in sales comprised only 7 percent of livestock farm numbers in 1970, but produced 62 percent of the total output and maintained a debt-equity ratio substantially higher than smaller farms dealing in the same and other commodities.

Another form of agribusiness enterprise is the investor-owned production corporation that hires specialists to manage the business. These investors frequently represent interests outside the rural or agricultural community that are seeking to diversify their holdings. Corporate management principles, rather than the principles of agricultural husbandry prevail.

Financing these enterprises had been the turf of commercial credit institutions until recent federal legislation made it possible for public agencies to finance them. SBA and FmHA (through its Business and Industry program) are the principal federal lenders. Credit is usually provided through loan guarantees ranging from 75 to 95 percent of the loan.

Evidence suggests that these programs are not always used in the best interest of small farmers. The case of Nebraska's "corporate sow" is illustrative. In 1979, more than 20 percent of the state's pork industry was produced by large-scale confinement hog factories, a significant increase ever a few years ago. Federal tax dollars have helped well-established businessmen finance these investment ventures and SBA has provided guarantees to several of these firms dominated by non-farm investors. An Omaha SBA spokesman remarked, "It wouldn't really concern us whether the owners are businessmen or farmers."

As hog factories expand, family farmers lose ground. Although Iowa State University reports maintain that these factories are no more efficient than smaller operations, the hog factories can produce at prices that can't be matched by family farmers because the factories' capital intensive methods are subsidized by investment and accelerated depreciation tax credits while the farmer's labor-intensive practices are not.

FmHA's and SBA's financing of both farmers and agribusiness corporations places them in a peculiar position. Financing the latter without regard to the interests of the former not only jeopardizes the economic status of farmers but also threatens the investments of the agency by laying the groundwork for farm-loan defaul

The Impact of Credit Policies

It is not possible to separate the impact of credit policies from other factors in the agricultural

economy. Credit, for instance, would not result in technological changes without supportive research and development policies. Likewise, innovative research without information extension and credit would be insufficient to spur technological change. Credit merely helps or hinders the unfolding of structural trends; it is not responsible for them.

The ownership of agricultural land and resources is transferred from one party to another by means of credit. As a crucial tool in the shifting of agricultural holdings from many farmers to few farmers, credit has unquestionably abetted the concentration of ownership in fewer and fewer hands. Resources are no longer uniformly distributed according to farm size. Low-income farmers, who tend to have smaller farms, find their assets preyed upon by farms that have access to sufficient credit.

This "economic cannibalism" results in a skewed distribution of wealth, and has meant a loss of jobs for workers and entrepreneurs in many rural communities.

Moreover, the large farms which have been bolstered by current credit policies tend to be more specialized, and this specialization has reduced agricultural diversity across the board. An elite group of food producers is being created through the absence of credit for some and the availability for others.

The credit extended to such specialized farms also induces farmers to take on risk-reducing arrangements, such as forward contracting. This gives more power to non-farm agribusiness corporations whose unbridled quest for profit is not necessarily consistent with farm welfare or resource husbandry.

Agribusiness contracting and vertical integration can also force farmers to relinquish independent decision-making in purchasing and selling, and can pit large non-farm units with substantial economic power against much smaller family farms. A few huge agribusiness firms can use these coordinating mechanisms to dominate production and secure unnecessarily high food and fiber prices. Government financing of such operations only strengthens the economic power of these corporate decision-makers, whose hands never touch the soil.

The preference of credit institutions for large scale, capital intensive and specialized farms places farmers and society in an especially vulnerable position. Those farmers who have been compelled to assume a heavy debt in order to enter agriculture or to keep abreast of its technological developments are particularly sensitive to small fluctuations in farm income and are likely to demand government price supports to protect their investments. If they do foreclose, trends toward concentration of ownership will be worsened. On a broader scale, extreme specialization is also vulnerable to natural and economic shocks which could be better endured by diverse farms.

Lastly, the production efficiency of large, specialized farms will be eroded as the resources needed to elevate them to such a status—debt capital—increases production costs at the expense of food prices.

Conclusion

By empowering large farmers and agribusiness corporations while at the same time denying credit to other groups of farmers, the credit system helps perpetuate a vicious circle. The 'large farms/capital intensiveness/agribusiness' dynamic creates habits and myths that are making food production an elite occupation. Moreover, as the vested interests of corporate business grow, the ability of the agricultural economy to adapt to changing conditions declines. Investments and farm jobs, which are now coming in increasingly large packages, must be protected lest major shocks cause societal disruption. Lockheed and Chrysler are probably just the beginning of relief provided by the federal trough. Meanwhile small farmers are far behind in farming's quest for resources.

Whether corporate planners and well-to-do farmers will dominate the agenda of agriculture is uncertain. What is certain, however, is that credit policies will play a major role in whatever that agenda will be.

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FmHA's Limited Resource Farm Loan Program

What It Is and How It Works

Late in 1978, Congress passed the Agricultural Credit Act which, among other things, established a new program to provide assistance to low-income farmers. The "Limited Resource Farmer Program," a program of the Farmers Home Administration, offers subsidized interest rates and the flexibility to defer repayment on loans for buying or operating farms. Although the program is under-funded and there are some problems with its implementation, it is an important new source of credit. Organizations that work with low-income farmers should be aware of the program and how it works. The Center for Rural Affairs has developed an excellent guide to the Limited Resource Farmer Program, which we reprint here.

What is a "Limited Resource" Loan?

A limited resource loan is a low-interest loan that you can get from the Farmers Home Administration (FmHA) if you are a farmer* with low family income. These can be operating loans (OL)—to pay normal farm operating expenses (livestock, machinery and annual input expenses), or Farm Ownership (FO) loans to purchase or improve farm real estate (land or building) or refinance land loans. These loans can also be used for nonfarm enterprises which add to the family's farm income or for less traditional farm-related activities such as aquaculture, non-chemical farming, and alternative energy improvements. The limited resource loan program is actually a special part of FmHA's "regular" farm loan program and, as will be described below, a farmer/applicant must be eligible for the regular OL and/or FO program before being considered for the limited resource low-interest rate. Brochures on regular OL or FO loans are available at your FmHA office.

What are the Interest Rates and Other Terms?

Limited resource OL loans currently have a 7 percent interest rate while limited resource FO loans have a 5 percent rate. By contrast, regular OL and FO loans made by FmHA to non-low-income farmers currently have 11 percent interest rates. (These interest rates are subject to change. Check with FmHA for the most recent rate.)

However, there is a provision that all limited resource borrowers' accounts are examined every two years to determine if they are able to pay higher interest rates. If they are, their interest rate can be graduated or increased according to their ability to pay—though it will never go above the regular interest rate charged to a regular FO/OL borrower. The repayment term of a limited resource FO loan can be for as long as 40 years. The repayment term for a limited resource OL loan varies depending on the type of operating expense; for example, larger types of farm machinery may be financed over 7

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*"Farmer" includes family farm corporations, partnerships and cooperatives.

years, but loans for annual expense items like seed and fertilizer usually must be paid back shortly after harvest. Deferment and rescheduling of repayments as well as consolidation with other similar FmHA loans is possible.

Who Can Get a Limited Resource Loan?

If you are a low-income farmer, operate a small farm, are a beginning farmer, a minority farmer, or an established farmer who has suffered from severe economic problems, the limited resource loan program is intended for you. In order to be eligible, you must go through two steps.

Step 1: You must be eligible for a regular FmHA FO or OL loan, which means you must fill out an "Application for FmHA Services" (Form FmHA 410-1). The FmHA County Supervisor will then gather information to verify that you:

- Are a U.S. Citizen (Legislation pending in Congress as of Spring, 1980, would redefine "citizen" to include legal aliens.)
- Are legally able to take on debts in your state
- Have enough training or experience to be able to farm
- Need to rely on farm income
- Have the character to repay the debt and the industry and management ability to carry out the farm operation or non-farm enterprise
- Are unable to obtain sufficient credit elsewhere
- Are the operator (tenant or owner) of a "not-larger-than family farm"

The County Supervisor will present your application and his findings to an FmHA County Committee composed of local farmers. This committee will play a key role in deciding whether you meet the eligibility guidelines for the first step.

Step 2: If you pass the first step, then it is the job of the FmHA County Supervisor to decide whether you qualify for the Limited Resource Loan with its lower interest rates. In order to get the low interest loan you must convince the County Supervisor that you:

- Are a farmer or rancher with a small-or family-sized operation or are a new operator
- Have a low income
- Need to maximize your farm and ranch income
- Cannot afford to pay FmHA's regular interest rate

What Is My Role in the Application Process?

You should be *actively* involved in all stages of your application, and you should let the FmHA County Supervisor know you are interested in the limited resource interest rates. Applying for a loan through FmHA is different from asking for financing from your banker. The FmHA County Supervisor will probably not know you or your operation as well. The FmHA County Supervisor will usually be less available because he often services a multi-county area. The FmHA Supervisor is more likely to rely on standardized forms and procedures than you may be used to with your banker.

One of the most important of these forms is the Step 2 "Farm and Home Plan" (Form FmHA 431-2) which is used to determine the interest rate (regular FO/OL or limited resource FO/OL) at which you would be able to repay the loan. You should fill this form out very carefully with the consultation, if possible, of the County Supervisor. If your farm plan includes anything innovative or unusual for your area (for example, direct marketing, "pick-your-own fruits or vegetables", on-farm milling or processing, non-chemical farming, alternative energy application, specialty crops, etc.), be prepared to defend your plan with concrete figures and/or expert advice. If your farm plan is unusual for the area, the County Supervisor may not feel he has the authority to approve a loan. Ask him to doublecheck with the State FmHA office: state-level OK will help smooth the path. If there is hesitation at both levels, you should ask their assistance in re-writing your farm plan in a way which would be acceptable to them. Listen to their suggestions: they could be helpful and the key to gaining loan approval. If compromise is not likely, and you are still confident of your farm plan, you can consider appealing their disapproval (see below).

Keep a copy of all forms you complete for your records, and also keep written notes on all discussions you have with FmHA personnel about your application. At appropriate points, be sure to ask what will happen next and when it will happen, then follow up on that timetable. Ask to correct your application forms whenever your plans for the proposed operation change. Be sure your farm plan is realistic. Your repayment will be based on your farm and home plan, and if your yield or sales figures are inflated, you could end up paying the price by ensuring your own eventual delinquency. If

anything, be conservative in your calculations.

Ordinarily, the FmHA County Supervisor will present your application to the next meeting of the FmHA County Committee which is usually composed of three farmers from the area served by that FmHA office. The committee meets once a month and will determine your general loan eligibility (Step 1 above). You can ask to attend the meeting either to listen or help present your case. If you think the County Supervisor does not fully understand your application, you should attend the committee meeting to present your plans and answer the committee members' questions. If you feel the committee is reacting negatively to your application, ask for their suggestions on how the plan could be improved. The committee will ask you to leave when it makes its final determination. At all stages of the application, you should ask questions if you do not understand what is happening.

How Long Will It Take?

Apply early—many months before you need the funds—because it can take a long time and sometimes there will be very little you can do to speed up the process. There are some things you can do. For instance, you should complete all forms quickly and thoroughly, double-checking with the Supervisor or FmHA office assistant to make sure the forms are complete. Completing the Farm and Home Plan early will make it possible for the County Supervisor to begin a determination of your eligibility for the Limited Resource low interest rate as soon as the Committee determines your general eligibility for regular FO/OL assistance.

If you are eligible for a Limited Resource loan there can still be delays, since there will have to be paperwork involved in establishing liens and other security for the loan. This will involve appraisals, and if you disagree with the FmHA appraisal or other terms of the loan there could be further delays.

Even when your loan is properly approved there can be delays caused by lack of funds. All approved loan applications are sent from the local FmHA office to the state FmHA office where they are "docketed", or put in line for funding, on a "first-come, first-serve" basis (with preference given to veterans). The state office receives funds quarterly and if it uses up all its quarterly allocation before it gets to your loan, you will have to wait until the next quarter. This delay can cause hardship during periods of cash shortage, for example, at spring planting time. If your loan has been approved and receipt of the loan money is expected reasonably soon, your FmHA County Supervisor may be able to arrange some short-term credit at a local bank.

What Happens After I Get the Loan?

FmHA assumes that limited resource borrowers will probably need extra supervision, and most limited resource OL borrowers are put on a "supervised bank account". This usually means at least two things: (1) all farm funds (excluding off-farm income) are placed in a bank account requiring that every check be countersigned by the County Supervisor or other FmHA office staff; (2) the total OL loan will be subdivided into various categories (for example, seed, fertilizer, fuel, household expenses, etc.) with a specific amount assigned to each category. Getting the counter-signature will be inconvenient, and it will limit your ability to take advantage of farm sales or "cash only" transactions unless you make special arrangements with your County Supervisor. As for the account categories you should work closely with the County Supervisor to make sure that amounts are realistic to your operation. Your active role can help ensure that the "supervision" of your OL loan does not become a handicap.

The FO borrower has special problems too. Today many farms are sold at public auctions or under sealed bid. Timing is crucial, and you will have to act fast if you hope to get an FmHA FO loan to purchase farmland under these special circumstances. FmHA prefers to work through options. An option to buy on a piece of farmland takes the land off the market and gives you and FmHA more time to deal with the necessary paperwork and the possibility of loan delays. You must keep a close watch on the option date to make sure that the time (and the farm) does not slip away.

What If My Application Is Rejected Or Approved With Adverse Terms?

If you are dissatisfied with any part of the final decision on your application you have a right to appeal that decision. If you want to appeal only a part of the decision, you may do so without

jeopardizing the parts of the decision you accept.

If you are rejected, you should receive a letter saying why. That letter should invite you to meet with the County Supervisor to discuss the rejection, and should notify you that you have a right to appeal the decision to a higher FmHA official. You have thirty (30) days from the date of the rejection letter (or the letter notifying you of any adverse decision) to write an appeal letter. If the thirty (30) days have passed, you can either simply re-apply and thereby start the process all over again or see if the FmHA District Director or other FmHA official will extend the appeal period and give you a week to write an appeal letter. In your letter, you should state the reasons why you feel the decision is wrong. Within thirty (30) days of your appeal letter, you should have a hearing.

What Will Happen At the Appeal Hearing?

The hearing will be a formal meeting at which you will be able to present any evidence, including witnesses, in your behalf and to question any statement made against you. You may be represented by attorney, or any other person you feel will be of help in presenting your case. *Before the hearing takes place,* however, you should ask to see the complete file record which FmHA has used in reaching its decision in your case. This must be provided to you, and nothing should be presented against you in the hearing that is not contained in that file. You are entitled to copy any part of your record at your own expense.

You may, at your own expense, have a complete transcript made of the hearing or you can tape record the hearing, again at your own expense. Otherwise, FmHA will provide a recorder who will take informal notes of the proceedings. In the latter event, you should be given a copy of the record after it is prepared and within five days you must submit corrections if you think the record is not accurate. This is an important step because this record would become a crucial document in the event of further appeal.

Who Can Help Me With My Appeal?

As an applicant who has been denied full benefits of a low-income government program (the Limited Resource program), you may be eligible for free legal services from a legal aid office serving your area. If you have trouble locating such an office, call information in your state capital city and ask for the legal services listing, or contact the agency or organization from which you received this brochure. (For more detailed information on the appeal process, write for a free booklet published by the Housing Assistance Council, 1025 Vermont Ave., N.W., Washington, D.C. 20005). In any appeal you and your representative/attorney should be familiar with FmHA regulations concerning your loan application. The FmHA County Supervisor should help you locate and copy relevant regulations. Some of the more important regulations include:

Priority of limited resource loans: Sec. 1941.2; 1943.2
Regular OL and FO eligibility: 1910.5; OL—1941.12; FO—1943.12
Limited Resource low-interest eligibility: OL—1941.12(a)(8), 1941.4(g), 1941.18(a); FO—1943.12(a)(8), 1943.4(g), and 1943.18(c).
Loan purposes (Regular and Limited Resource): OL—1941.16; FO—1943.16.
Non-farm and new enterprise loans (Regular and Limited Resouce):OL—1941.4(i), 1941.16, 1941.18(a) and (b); FO—1943.4(k), 1943.16(a), (b) and (f), 1943.18(c), 1943.24.
Loans for energy saving devices (Regular and Limited Resource): 1943.16(b) (2).
Processing of applications: 1910.3(c); 1919.4; 1941.11; 1943.11
Loan disapproval procedures: 1900.43(a); 1941.33; 1943.33.
Appeals procedure: 1900.51; 1900.54.

These regulations can be found in Volume 7 of the Code of Federal Regulations; many can be found in the November 29, 1978 issue of the *Federal Register* (Volume 43, page 55883); and all are available at your FmHA office where they are called "FmHA Instructions". These regulations change frequently, and the list above is not necessarily exhaustive.

This paper was prepared and distributed as a brochure by the Center for Rural Affairs (P.O. Box 405, Walthill, NE, 68067, (402) 846-5428), with funds provided by the Goldenrod Hills Community Action Council. The Center plans to update the brochure,

and suggestions for improvement are encouraged. It also wishes to thank the small farm groups and FmHA borrowers and officials who helped in its preparation.

The brochure has been translated into Spanish by Rural America, Inc. Copies are available from: Rural Land Alliance, Rural America, 1346 Connecticut Avenue, N.W., Washington, D.C. 20036.

emphasized production and price policies and has paid little attention to agriculture's growing dependence on energy. This has been the case even though the cost of energy used in farm production now exceeds $6 billion annually with more than half that amount spent on energy for the manufacture of chemical fertilizers and pesticides.

Still, one of USDA's energy goals announced in July, 1979, before a Senate subcommittee[3] was that agriculture be energy self-sufficient by 1990, under conditions that "sustain productivity." This is to be accomplished through energy conservation in agriculture and rural areas, through the development and application of alternative sources of energy and by assuring essential energy supplies for agriculture.

The pursuit of this goal will mean many crucial decisions in the areas of farm credit, research and extension. Will the Farmers Home Administration make loans to small farmers for the construction of owner-built solar systems, for example, or will it restrict its alternative energy loans to more expensive, manufactured systems that only large producers can afford? Will research on methane digesters focus on systems designed for large, corporate feedlots or will it refine this technology so that farmers who own 50 or 100 head of cattle can afford it? Will extension agents recommend expensive solar grain dryers or will they provide technical information to farmers who prefer to build their own? These decisions, and many others like them, will have a direct bearing on the structure of American agriculture over the next several years.

So far, alternative energy projects funded by USDA have emphasized high technology and complicated, manufactured systems. Although funding levels in some instances are substantial, the projects are tilted toward complicated and expensive systems small and moderate-size farmers cannot afford.

For instance:

- USDA is providing $42.7 million in loan guarantees to assist four pilot projects that will convert agricultural and forest products into gasohol,[5] but it is ignoring the potential for alcohol production on farms or in small plants in rural communities. No USDA studies have so far looked into the conversion of agricultural residues to alcohol on the farm or in a rural community, a process that would allow farmers to use locally-produced fuels to power their tractors and other equipment.
- The Farmers Home Administration (FmHA) made a $14 million loan to the city of Lamar, Colorado, to convert manure from a nearby feedlot to methane gas, but FmHA local agents have failed to develop farmer awareness of a comparable loan program for family-sized farmers who want to build methane digesters. The only national methane demonstration program now underway is the Rural Gasification Project, a $150,000 effort sponsored by New Life Farms of Drury, Missouri, and funded by the Community Services Administration (CSA). The project conducts workshops on such topics as the construction of small, low-cost digesters that can be used by low-income farmers.
- The Science and Technology Administration, coordinators of USDA's research and extension activities, in 1979 earmarked $1.2 million to demonstrate how 91 solar energy systems can be used on farms. Nine state agricultural experiment stations and universities are cooperating in this program, which was authorized in 1974 and is aimed at reducing fossil fuel consumption in the drying of grain and other crops, heating livestock and poultry buildings, and heating and cooling greenhouses. But these systems, which would be mass-produced after on-farm testing is completed, are designed for larger farmers able to invest in manufactured systems and less likely to design or build their own. Low-cost, home-built systems, on the other hand, are being largely ignored in this ongoing research program.
- The Department of Energy (DOE), another agency that has little or no awareness of the impact of alternative energy development on farm structure, is providing pass-through funding for much of USDA's research and demonstration work. It also supports expensive methane systems at two of the nation's largest corporate feedlots. Meanwhile its support of research on systems that can be used on small and moderate-size farms is limited to a handful of projects funded under its small grants program.

It is sometimes argued that farmers with limited resources and below-average incomes have neither the money nor the inclination to adopt alternative energy systems. It also is suggested that they lack the skills to construct and maintain complicated

systems and that, even if they did, the energy savings would be insignificant. For these and other reasons, these farmers have been virtually passed over by both DOE and USDA.

Nearly all the federal support for energy projects appropriate to small or moderate-size units, in fact, comes from CSA. This anti-poverty agency began funding alternative energy projects related to agriculture before either USDA or DOE became involved financially in this work. (The National Center for Appropriate Technology, which receives most of its funding from CSA, and the Tennessee Valley Authority are other groups that have supported projects of this kind.)

CSA's first major agricultural endeavor was the Small Farm Energy Project, which involves 48 northeast Nebraska farm families and is sponsored by the Center for Rural Affairs located in Walthill, Nebraska. This national research and demonstration project emphasizes the on-farm applications of proven technologies for saving and producing energy, and is funded for 39 months at $130,000 per year.

Experiences with this project thus far suggest that the interest of small and moderate-size farmers in solar and other renewable energy sources is underestimated. Responses from project participants since 1976 suggest that these farmers would be willing to adopt alternatives if they had easy access to technical information and assistance, if they had some economic incentives to encourage them and if their efforts were no longer hampered by institutional or administrative barriers.

The project has proven that commercial farmers with no previous knowledge of energy alternatives can indeed put their skills and ingenuity to work in designing and building a wide variety of projects that save both energy and money. Completed projects include solar water heaters for milking parlors, an attached solar greenhouse, three types of solar grain dryers, several kinds of vertical wall collectors, a portable solar collector used for grain drying and home heating, solar dryers for food, and a roof-mounted collector on a farrowing house.

None of these home-built systems cost more than $2,000 and all were from one-third to one-half the price of a comparable manufactured system. Participants completed 137 projects during the first two years, investing many hours of labor and more than $24,000 of their own money. Eleven of the solar projects alone have an annual energy value of more than 149 million BTUs.

All this suggests that full-time farmers are willing to build low-cost systems that are uncomplicated and reasonably reliable, that pay for themselves in a relatively short time, that can be retrofitted to existing buildings, that are made from materials obtained locally and that require little maintenance.

Another facet of energy development that will have a telling effect on the structure of agriculture is the production of alcohol for use as a motor fuel. Public interest is currently focused on large-scale systems that provide industrial-grade alcohol for blending with unleaded gasoline. This combination of 10 percent alcohol and 90 percent gasoline is being marketed as "gasohol" in more than 800 service stations around the nation.

For the farmer, recent shortages of diesel fuel and uncertainty over future prices and supplies have meant that more attention is being paid to alcohol production on farms and in local communities as an important energy alternative. This interest has been spurred by the successful demonstration of ethanol production and use on working farms. The best-known of these systems was built by Archie and Alan Zeithamer for use on their 500-acre diversified farm near Alexandria, Minnesota. Their system, which includes a 4,000-gallon cooker and a 22-foot-high distilling column, can produce up to 750 gallons a week. The 160-proof alcohol produced is being used in a tractor, a combine, trucks and other farm vehicles. The Zeithamers also plan to use it to heat their home this coming winter.

Small-scale production appears to have several advantages that enable it to compensate for failing to match all the economies of scale centralized commercial systems have. One of the most important is that the distillers grain from a small-scale facility can be stored on the farm and fed wet to livestock, eliminating the considerable energy and equipment needed to dry, transport and market it. Local production also obviates the need to transport grain from the farm to a distillery and enables the farmer to use wood or crop residues for heat needed in the distilling process. Farmers also can reduce labor costs by building part of their system themselves and by making alcohol in the off-season.

Perhaps the main worry of farmers is their fuel supply, and they appear to be attracted by the idea of reducing their dependency on outside suppliers and avoiding the political problems of competing for centrally-controlled energy allocations. The Bureau of Alcohol, Tobacco and Firearms, the part of the U.S. Treasury Department that regulates alcohol

production, has been overwhelmed with requests from farmers for temporary permits. Even so, the main USDA emphasis is still on huge multi-million dollar plants that produce industrial-grade alcohol for blending with gasoline.

Another area that has received little attention at USDA, but a lot at CSA, is the development of alternative technologies to cut other energy costs on the farm and in rural homes; these include solar water heaters, food dryers, vertical wall and other types of solar collectors, wind generators and attached greenhouses. Installing these devices in a fully-weatherized house can easily cut energy bills in half.

There are approximately 21 million homes in communities of 2,500 or less and each uses an average of 22 barrels of oil a year. This adds up to about 2.6 "quads" of energy, more than is consumed by agricultural production. There also is more potential for alternative energy technologies in farm and rural areas because of fewer building restrictions and greater access to sun and wind.

This, too, has implications for the structure of agriculture. A strong USDA effort to encourage the use of alternative energy sources in rural homes would have a substantial impact on the living expenses of small and moderate-size farmers. Besides, all of the appropriate systems can be owner-built at a fraction of the cost of manufactured units.

It is clear that more information is still needed to measure the impact of energy development on the structure of agriculture. Although one study suggests that small farms are less energy-intensive than large ones,[6] the data is not considered conclusive. Sufficient information also is unavailable on the relationship between farm size and energy-related production costs, on how the effects of energy price increases would differ between large and small farms, and to what extent scarce and costly energy would contribute to existing inequities in agriculture. We also need more data on energy use on working farms and less from simulated, "typical farms" that may or may not be representative of what is really happening.

Both USDA and DOE are already developing and implementing energy policies that are shaping the future structure of American agriculture. Meanwhile, the research needs of small and moderate-size farmers will continue to be ignored until research is expressly designed for their operations. It could be argued that small farmers might benefit from research aimed at larger farms through a "trickle down" effect, but such benefits might only enable small farmers to maintain their relative position to larger farmers, who will be the main beneficiaries.

The record thus far shows a strong bias toward the kind of technology that will primarily benefit large and corporate farms. Support for research and development is going to facilities of this type and the large systems also account for most of the initial loans and loan guarantees. These priorities are also influencing the land grant universities, which in the final analysis will carry out the USDA/DOE policies. It is obvious that these policies will have a great deal to do with what kind of farms will prosper in the coming era of resource scarcity.

Notes

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[2]This assumes a 10 percent inflation rate plus specific price increases estimated for the various kinds of energy used in agriculture.

[3]Statement of Jim Williams, Deputy Secretary of Agriculture, before the Subcommittee on Agricultural Research and General Legislation of the Senate Committee on Agriculture, Nutrition, and Forestry on July 23, 1979.

[5]"Gasohol: Fuel of the Future?" Farm Index. U.S. Department of Agriculture. Washington, D.C. August, 1979.

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Selling the Small Farmer Short

Agricultural Markets and Low-Income Farming

Allen Thompson

The successful marketing of agricultural products is one of the most important and most difficult tasks farmers face. While small and low-income farmers[1] must deal with numerous problems regarding production, financing and gaining access to land and other resources, it is generally agreed that marketing is a major problem. Part of the problem is that most farmers think of themselves primarily as producers of food and marketing tends to be secondary in terms of time, interest and expertise. But small and low-income farmers also have difficulties with the structure of the present marketing system.[2]

This paper is an effort to: a) describe today's marketing system; b) discuss marketing problems facing low-income farmers; c) assess the potential of producer cooperatives and other alternatives (principally direct marketing) for dealing with current marketing problems; and d) draw some general conclusions and policy recommendations. It should be noted, however, that this paper makes no claim to covering either the present system or alternatives to it in any comprehensive way. Also, attention is given primarily to produce markets, because this has been the main area of interest of those working to develop alternatives.

The Present Marketing System

Today's marketing system handles a high volume of agricultural products and, while it does create certain problems for small farmers, there is little reason to believe that major changes in that system will be made in the foreseeable future. Thus, small farmers can either learn to better participate in the system or develop marketing alternatives that compete with the current system.

The present marketing system is characterized by: a) a high degree of concentration among purchasers of farm products; b) a preference of the large agribusiness marketing firms for relatively standardized products that are delivered in a coordinated fashion; and (c) a great deal of processing and packaging done before agricultural products reach the consumer.

The trend in most primary markets is for fewer and larger farmers to face fewer and larger buyers.[3] From the standpoint of the agribusiness concerns that buy the products, this concentration makes for increased economic efficiency. This efficiency depends on stable supplies of uniform, standardized products, which in the eyes of most agribusiness marketing firms, can only come from larger farmers. There is, therefore, a reluctance on the part of

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wholesale buyers to seek out smaller farmers. By way of explanation, the buyers complain of uneven quality or substandard products, undependable supply and the high costs of hassling with a small-volume provider. For many small farmers, then, access to markets is difficult and, when available, the terms of access are poor.[4] Small farmers are occassionally used to fill gaps or irregularities in the normal channels of supply, but rarely are they part of the regular flow of products.

Another feature of the current system that works against small farmers is the fact that many foods are transformed by processing or packaging before they reach the consumer. Potatoes, for example, often are sold either as dehydrated mashed potatoes, french fries or potato buds. The reason for processing is mainly the alleged "demands" of consumers for convenience foods, and so processing at the factory is substituted for the labor of preparation. Whether or not all consumers (including hospitals, prisons, school cafeterias and other institutions) prefer these options or are willing to consider alternatives, the availability of these "conveniences" means competition for farmers who want to market their products in different ways.

From the standpoint of agribusiness, the current marketing system does indeed appear efficient, but from this perspective many of the system's costs are concealed. The system was developed with the support of the agricultural establishment, including the U.S. Department of Agriculture, and it was determined early on that small farmers had no role to play in the modern agricultural community. Meanwhile, the costs of this decision—urban congestion and rural decline, environmental damage, an increased dependency on energy-wasteful, cross-country distribution systems, greater concentration in the processing and distribution of foods—were ignored or assumed to be someone else's problem. The fact is that these are real costs directly resulting from the present marketing arrangements, and should be included in any calculation of efficiency.

A related question involves the kind of goods the system delivers to the consumer. Does nutritional content count as heavily as whether or not the product has a long shelf-life or can be mechanically harvested? Do consumers really prefer the products or are they uncomplaining because they are offered few alternatives? The growing success of some alternatives, discussed below, should suggest that the current system is not the only answer, at least for some consumers.

Some Problems for Low-Income Farmers

Without question, the current marketing system presents problems for small farmers.[5] The concentration of market power among buyers of primary agricultural goods means the small farmer has poor bargaining strength and few options. In many areas farmers are faced with only one buyer, for whom a single transaction is of relatively minor importance, while for the farmer it is a matter of survival. Small volume, limited options and low incomes all reduce the bargaining strength of the small farmer and also create potential for abuse.

Nevertheless, it is possible within the limitations of the present system to improve the standing of the small farmer. Giving small farmers more information about the requirements and expectations of the market to minimize poor quality or inappropriate grading or packing would be useful. More extensive listings of the location and prices of markets outside the local area would also be helpful, and the monitoring and regulation of the terms of contracts to ensure uniformity and fairness would reduce system abuses.

But while improvements in the current system are possible, for many reasons the best avenue for small farmers is the development of strong producer cooperatives and alternative marketing channels outside the current marketing network.

The Potential of Producer Cooperatives

As has already been noted, the small producer faces several problems stemming from size, including: a) insufficient volume to attract attention in the market; b) a weak bargaining position; c) limited options for exploring alternative markets; and d) higher unit costs for marketing. Because producer cooperatives increase volume by pooling products they are in a position to overcome some of these size-related obstacles. The successful cooperatives today clearly demonstrate the gains that can be made under this sort of arrangement. Moreover, while cooperatives are considered important for small farmers who want to stay within the current marketing system, it is also clear that cooperatives are useful to farmers who use some of the alternative marketing channels discussed below.

Briefly, the advantages of successful cooperatives are: a) a reduction in marketing costs; b) an ability to hire management with specialized knowledge in marketing; c) a lowering of some production costs (if the coop also sells farm inputs to its members) and the standardization of products; d) the provision of technical information and assistance with respect to grades, standards and qualities; e) a coordination of the timing and scheduling of delivery; f) an ability to explore new or alternative markets; and g) increased returns to the cooperative and its members through grading, packaging, transportation and processing performed by the coop.

Despite their great potential, cooperatives composed mainly of small or low-income farmers have encountered serious problems. The natural independence and skepticism of farmers tends to limit cooperative activities. Many cooperatives also suffer from insufficient capital—both because low-income farmers have little to risk and because traditional financing institutions, including the Bank for Cooperatives, have been reluctant to provide initial funding. Low-income cooperatives have been victimized by inept or crooked management, and they often face hostility from the agricultural establishment, especially in the South, where many low-income farmers are black.[6]

Still, the difficulties confronting small, independent farmers create enormous potential for producer cooperatives. A renewed emphasis on building strong producer organizations would likely pay off and may in fact be essential to the survival of a large number of small farms.[7]

The Potential of Direct Marketing by Small Farmers

A number of alternative marketing options that bypass the current marketing system in favor of a direct exchange between producer and consumer are gaining increased attention. These alternatives include roadside stands, pick-your-own operations or other on-farm sales, farmers markets and bulk sales to hospitals, schools, local groceries, restaurants and consumer cooperatives. While these marketing sales now make up a relatively small percentage of all food sales and largely consist of fruits and vegetables, their volume and variety appear to be growing.

Given limitations of space, only a brief overview of the benefits and deficiencies of direct marketing is possible here. Interested readers should consult the references cited in the bibliography for more information.[8]

Direct marketing is characterized by: a) an increase in the amount of time the farmer spends on marketing; b) the potential for higher prices received by the producer with lower costs to the consumers; c) local orientation; d) the existence of optional outlets for products that fail to meet the standards of the current marketing system; and e) the involvement of the farmer in marketing areas normally performed by agribusiness marketing firms, such as transportation, scheduling and storage. It is obvious from this that there are both advantages and disadvantages to the small farmer.

Perhaps the major advantages are the higher prices and increased options, which ultimately mean higher incomes. While it is unlikely that any consumer (a term that can include a restaurant or a school cafeteria) would be willing to pay higher prices for food, the absorption of some of the marketing costs by the direct sale of products to consumers means that prices can be both higher than wholesale prices received by the farmer and lower than prices paid by consumers. This is especially true of products that, while suitable for consumption, do not meet the standards of uniformity or durability required for mass marketing and long-distance shipping. The potential advantage is somewhat greater in "retail" sales such as roadside stands or farmers markets than it is in bulk markets and markets where transportation, packaging and processing costs are high. The greater the number of marketing functions that can be retained by the farmer (delivery, coordination, storage) the greater the farmer's potential profit.

A disadvantage of direct marketing is the time and labor farmers must put into it. Farmers must set aside additional time to sell—especially for farmers' markets—or to make arrangements to sell (such as lining up the grocery stores, institutions or consumer cooperatives). In some alternative systems, time and equipment must be spent on delivery, and occasionally some processing and packaging is also necessary. For farmers whose time is precious—as for example part-time farmers with other jobs—many of the direct marketing options are impractical.

It should be borne in mind that direct marketing is in competition with the present marketing system, and its products must be able to compete in terms of quality, convenience and cost. Many of these

alternatives are new to today's consumer (although, ironically, most predate the current marketing system), so that direct marketing can require a good deal of "selling". But while these options are not the only answer to the problems of consumers and small farmers, they offer attractive alternatives, and there are a growing number of success stories coming from around the country.

What most small farmers need in marketing are more options. Therefore, the options offered by direct marketing should be seen not as competing but as complementing each other. Some of the more successful farmers employ several direct marketing techniques. Moreover, most, if not all, options are put to better use when used in conjunction with cooperatives or producer associations, as noted above.

Summary and Recommendations

Despite a growing acceptance of cooperatives and direct marketing as essential to the continued survival of the small farmer, there is only a limited and somewhat fragmented effort in support of these alternatives, with much of the work coming from outside the agricultural establishment. Moreover, it appears—and the brief experience of the Direct Marketing Act of 1976 is a prime example—that most of these efforts are viewed by decision makers both as experimental and marginal. It is hoped that state departments of agriculture, the extension services and land grant experiment stations, as well as USDA, will expand their activities in support of these two marketing alternatives. At the federal level, increased attention could be given by the cooperatives service branch of the Economics, Statistics, and Cooperatives Services part of USDA to organizing small farmers into successful cooperatives. Additionally, an Alternative or Direct Marketing Service, patterned after the Cooperative Service and staffed with persons knowledgeable in alternative marketing systems and capable of providing technical assistance to groups seeking alternative markets, should be given serious consideration.

Notes

1. In this paper, the terms "small farmer" and "low-income farmer" are used somewhat interchangeably, although it is not always true that small farmers have low incomes. The author believes a useful definition of a small farm is that adopted by the National Rural Center's Small Farms Projects:
   - The family or individuals must rely on farm income for a substantial share of their livelihood.
   - The family or individual must manage or control the farm business and must contribute the majority of the farm labor (except in peak seasons).
   - The family or individual income must be moderate or less.
2. The term "present marketing system" is used to mean the markets and institutions through which most agricultural products flow from the producer to the consumer. Included are firms that buy primary products and process, package, deliver, and sell these products at the wholesale level. There is, of course, no single system as such, but the term distinguishes the current "systems" from the alternative systems to be discussed below.
3. Rhodes and Forker, "The Situation Now"
4. Gustafson and Moulton, "The Marketing Situation and Opportunities for Low-Income Growers of Fresh Produce in California"
5. See Thompson, *Marketing and the Small Farmer* for more detail on these problems as well as additional references.
6. Marshall and Godwin, *Cooperatives and Rural Poverty in the South.*
7. Marshall and Thompson, *Status and Prospects for Small Farmers in the South.*
8. See, for example, Thompson, *Marketing and the Small Farmer.*

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Science in Whose Interest?

A Look at the Beneficiaries of Agricultural Research

Heather Tischbein

Over the past decade, concern about the role of publicly-funded agricultural research has grown in proportion to concerns about the changing structure of agriculture. Both the public and, to a certain extent, the scientific community, are beginning to inquire into the part agricultural research has played in fostering a capital-and energy-intensive agricultural system in which production and marketing are increasingly concentrated in the hands of fewer and fewer individuals and corporations.

Specifically, questions are being asked about how agricultural research has benefited the many interest groups within our pluralistic society. Have improvements in technology and increased production been of the same significance to consumers, farmers and agribusiness firms? Have poor and disadvantaged farmers and consumers been helped in equal measure to the well-to-do and privileged?

The answers are not easily had. Little research has been undertaken specifically to determine the benefits of agricultural research. A search of the Agricola and CRIS computerized bibliographies failed to turn up references on this topic. In fact, according to a high-ranking official of the U.S. Department of Agriculture and several researchers working at land-grant colleges, there is virtually no information on the distribution of research benefits with respect to income class. Some research has been done on how technological innovations have helped producers as compared to consumers, but determining the distribution of benefits by class has not been a research aim.

Research for whom?

The main goal of agricultural research has been to improve economic efficiency in agriculture—from the planting of seeds to marketing the product. Billions of dollars and scientist-man-years have been invested by the government and private industry to increase the quantity of output per unit of input and this quest for ever-cheaper ways to produce more food and fiber has led to remarkable engineering advances in the plant and animal sciences. But reduced costs and increased profits have generally been the sole criteria by which these new discoveries have been judged.

Admittedly, both of these aims are considered to be in the public interest. Lower food costs are deemed a direct public benefit because they make food accessible to all, regardless of income, and thereby reduce malnutrition and hunger. In addition, lower food costs are believed to increase the disposable income available to purchase other goods and services. Increased profits to farmers and agribusiness firms meanwhile, are considered an indirect public benefit because they allow for expansion and therefore greater economic opportunity for all. Unfortunately, improved efficiency has been pursued so singlemindedly that little attention has been paid to the impact of continuing technological innovation on other aspects of society and on the environment.

Inflation, increased unemployment, poverty; contamination of foods by pesticides, antibiotics,

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growth stimulants and food preservatives; and population dislocations resulting from the introduction of large scale labor-saving equipment are all indications that the blessings of economic efficiency have been mixed. People representing diverse interests are beginning to ask: "Efficiency for whose benefit and at what cost to the rest of society and the environment?"

Intended beneficiaries

According to Section 2 of the Hatch Act (1887), the federal grant research program was set up "to conduct original and other researches, investigations and experiments bearing directly on and contributing to the establishment and maintenance of a permanent and effective agriculture industry of the United States, including researches basic to the problems of agriculture in its broadest aspects, and such investigations as have for their purpose the development and improvement of the rural home and rural life and the maximum contribution by agriculture to the welfare of the consumer." Almost 100 years have passed since this was written and publicly-funded research was first institutionalized at the land-grant colleges. In that time, however, scant research has been devoted to determining whether this research has indeed lived up to its purpose.

The shortage of empirical data evaluating this research forces us to turn to observations of its effects on real people and real communities. Here, all is not a desert. Some work has been done on the employment impacts (usually on farmworkers) of technological changes in agriculture, on the distribution of benefits between producers and consumers, and on the relationship between the structure of a local agricultural economy and the surrounding community.

For the most part, however, social scientists have neither documented the impact of technological change on different social classes nor devised theoretical tools for predicting these effects so that the adverse ones can be avoided or minimized and the positive ones pursued. As William Friedland noted in 1974 in *Destalking the Wiley Tomato* (a study of the social consequences of mechanizing the tomato harvest): "Despite some attempts in the natural science and social science worlds to develop a better sense of social outcomes . . . we continue to rely on history to provide the perspective necessary to understand the consequences for the social order of an invention, a technological development, or a series of scientific events . . . For each monumental scientific development that has shaped human society and environment, there are hundreds of medium-to-small ones. Some of these developments have been studied; most simply occur, almost unnoticed. The structural effects of such changes are, perhaps, finally experienced through accretion, for example, by experts in employment trends. They are also experienced, by those who are replaced in employment, as personal difficulties or tragedies."

The mechanization of the tomato harvest in California is one of the best documented and most dramatic examples of how publicly funded research can benefit some while hurting others. Between 1966, when the tomato harvester was first introduced, until 1970, when the California harvest was considered 99 percent mechanized, there was a loss of more than 32,000 harvesting jobs. The number of tomato farmers plummeted 84 percent—from 4000 to only 597—and the average farm size grew from 32 acres to 363 acres. Still, little is known about mechanization's impact on the quality of life of the displaced workers and farmers and on the communities in which they worked and lived.

With this many victims, who benefited from the mechanization of the tomato harvest? California Rural Legal Assistance (CRLA) reports that the three men who developed the tomato harvester have received more than $350,000 in patent royalties. Another possible beneficiary was the Del Monte corporation, the world's largest producer of fruits and vegetables, which put the tomato harvester to work in its operations.

Did the harvesters reduce costs and increase profits for Del Monte? If so, were these profits reinvested to improve the economic well-being of the public in general, and specifically those individuals and communities that suffered from the adoption of the tomato harvester? What were the benefits to Del Monte stockholders, especially the University of California, which carried out the research on the harvester and which happened to be the fifth largest stockholder in the corporation, and to the two University of California regents and the former vice president in charge of the agricultural budget who happened to be directors of the Del Monte corporation?

And, finally, what were the benefits to consumers? According to CRLA, the price of tomatoes increased 111 percent during the time the harvest was being

mechanized. During that same period the price of other fruits and vegetables rose only 74 percent, and the price of strawberries, a particularly labor-intensive crop, rose only 41 percent.

The mechanization of the tomato industry is but one example. Mechanization of the cotton harvest between 1945 and 1965 displaced more than four million people. In the tobacco industry, it has been predicted that between 1972 and 1980 mechanization in the flu-cured tobacco belt will result in declines in the number of harvest workers from between 64,000 given high levels of production to 199,000 given low levels of production. Our knowledge of the distribution of benefits resulting from the tomato harvester, leads us to hypothesize similar impacts regarding labor-saving changes in the production of other commodities. In order to avoid future dislocations resulting from technical change, it is crucial that agricultural research develop the capability to predict a wide range of social, environmental and economic impacts. Only in this way can intelligent choices be made about the type of agricultural system that is in the best interest of society.

What little evidence there is indicates that the application of agricultural research has failed to improve the quality of life of rural communities and has been of questionable benefit to consumers, both in terms of food cost and quality. It is time to ask how this situation occurred and what can be done to change it. Why has research failed to meet the goals set forth in the Hatch Act? Why has the scientific community had so little interest in understanding the structural impacts of its inventions? There are a number of possible answers, and the truth is undoubtedly a blend of all of them.

One explanation is the almost religious belief that science, through the application of ever more sophisticated technologies, will somehow save us from ourselves and a seemingly hostile environment. According to this school, it matters not that a certain technological innovation may have its social or economic drawbacks; sooner or later another technological innovation will be discovered to remedy the problem.

A second possible explanation of the near-total disregard of the consequences of agricultural research is a widespread acceptance, albeit reluctant at times, of adverse social impacts as an inevitable price of progress. Lack of information on more socially and environmentally benign alternatives further entrenches this position.

The interest of both agribusiness and research institutions in continuing the process of technological innovation is another factor to consider. First, the constant demand for technical progress means employment for many researchers and research administrators. Also, the widespread dissemination of information on problems associated with technological innovation would be of no help to the industries that sell the new technologies and related services. It is not surprising that these industries have had little interest in funding research projects that could threaten their profits.

A fourth myth that helps explain the lack of research on the social impacts of technological change is the belief that the monetary benefits to industry gained from the adoption of labor-saving technologies are eventually dispersed throughout society. However, this "trickle-down theory" of wealth (or, what's good for business is also good for the country) is being reevaluated. No longer is it assumed that those who are somehow disadvantaged in the short run by a technological innovation will be taken care of in the longer run, either by finding other employment or by turning to the government for assistance.

Lastly, economic theory is largely unable to consider quality-of-life variables when assessing social impact. Whereas economic and technical efficiency and the trade-offs between them are easily determined, questions of quality of life elude measurement. Characteristics such as the value of good health and the preservation of soil fertility or prosperous rural communities are difficult to ascribe an economic value to in the language of the market place.

But now that some of the less-than-welcome impacts of technological change are being felt by many, regardless of whether science was able to predict, analyze or describe them, the public is demanding that science begin to study the effects of this research.

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"From Seedling to Supermarket"

Vertical Integration in the Food Industry

Al Krebs

To many, the word "agribusiness" has replaced "farming" in the language of the marketplace. But agribusiness is more than just owning and cultivating land to produce crops and livestock. The term also includes the business of financing agriculture; of manufacturing, transporting, wholesaling and distributing agricultural inputs such as farm machinery, fertilizers, pesticides, seed, feed and packaging materials; and of the manufacturing, processing and marketing of the food once it is produced.

When a corporation *owns or operates* two or more segments of this structure, as a significant number of them do, it is called a vertically-integrated company. When a corporation *controls* two or more operations, usually through contractual agreements with farmers, as rapidly increasing numbers are now doing, it is designated as a vertically coordinated firm.

American agriculture today is increasingly dominated by highly-capitalized, industrialized, tightly-concentrated, vertically integrated and coordinated agribusiness corporations.

To rural Americans, this kind of control over our food economy can often mean soaring farm production costs, unfair food prices, and scarce credit, and it has contributed to a national farm debt of $160 billion.

At the same time, agribusiness is turning its products into synthetic, chemically-adulterated foods that are standardized through expensive advertising, packaging and franchising. It also frequently substitutes technological gadgetry for labor.

To consumers, all this means food that is designed basically for profit, not people, and it has been argued that this state of affairs has resulted in deterioration in food quality, double-digit inflation and decreasing freedom of choice.

The need now is for an understanding of the role economic concentration plays in our current food crisis, and for the formation of a coalition of farmers, workers and consumers that will demand a major role in determining the way our food is produced and that will own and control the land and other means of production.

Some Definitions

Vertical integration is only one of the four forms of corporate concentration. The other three—market, aggregate, and conglomerate concentration—are described later in this paper. For now, we will begin our discussion of vertical integration with a definition offered by U.S. Department of Agriculture (USDA) researchers Ronald L. Mighell and William S. Hoofnagle in their paper "Contract Production and Vertical Integration in Farming, 1960 and 1970":

> "It includes all the ways of harmonizing the successive vertical steps, or stages, of production and marketing. Vertical coordination may be accomplished through the market price system, vertical integration,

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> contracting, cooperation, or any other means, separately or in combination. There is always some kind of vertical coordination if any production takes place."

The two USDA analysts go on to define "vertical integration" as the coordination of many stages of production in one firm. Some of these stages were previously identified with separate firms and are now merged into one.

Vertical coordination of farm production under agreements between the farmer and the processors, dealers and others who either sell to or buy from him, is known as "contract production".

Frequently, such agreements are called "forward contracts" because they are made before a commodity is produced. Often before farmers have committed much of their resources to the production of a specific commodity they will have reached an agreement with a contractor.

By 1970, 17 percent of the American food supply was controlled by agribusiness corporations through "contract production." By 1975, the figure had risen to nearly 25 percent and the American Agricultural Marketing Association has estimated that in 1980 almost 50 percent of the country's food supply will be produced under corporate contract. By 1985, it will be 75 percent.

Even those predictions can be deceiving. A close inspection of today's statistics reveals that corporate integrators control:

100 percent of sugar cane and sugar beets
98 percent of fluid grade milk
97 percent of all broilers
95 percent of processed vegetables
85 percent of citrus fruit
70 percent of potatoes
54 percent of all turkeys
51 percent of fresh vegetables
80 percent of all seed crops

As Mighell and Hoofnagle note, vertical integration is most often used to define a situation in which several successive stages of production are coordinated within one firm:

> "Nearly all firms have some inherent vertical integration. Hence, one could say that practically all production is vertically integrated to some extent. However, what we mean here by vertical integration is the situation in which two or more stages that were formerly handled by separate firms are merged into one firm. And we mean specifically, integration between farm and nonfarm stages."

A livestock feeder who buys or builds a packing plant to serve as an outlet for his feed cattle, for instance, is vertically integrating. So, too, is a lettuce packer-shipper who is also growing lettuce, as is a broiler producer who builds his own feed mill.

Vertical integration permits agribusiness, as Tenneco, Inc. officials put it, to control food from "seedling to supermarket." Claiming to take care of people's food needs from "womb to the tomb," the Del Monte Corporation (now a subisdiary of the R. J. Reynolds Corporation) is a model vertically-integrated corporation. It is engaged in food and agricultural research, seed farms, agricultural production, inputs, processing, transportation, storage and distribution, marketing, advertising and food service.

John Blair, former chief economist for the Senate Anti-Trust and Monopoly Subcommittee, notes in his book *Economic Concentration, Structure, Behavior and Public Policy,* that it is self-evident that vertical integration can affect competition adversely by establishing monopolistic control over scarce natural resources, which can result in non-integrated business being completely cut off from materials or forced by their integrated competitors to operate for far less profit.

He cites Carl Kaysen and Donald F. Turner's *Antitrust Policy—An Economic and Legal Analysis:*

> "Finally, vertical integration offers opportunities for the use of market power not available to firms operating in a single-stage market. Both price and nonprice discriminations are made possible by vertical integration, especially partial vertical integration in which a firm is both supplier and competitor of other firms . . . By narrowing the margin between the price at which it supplies its one-stage rivals and the price at which it sells the product with which their output competes, it can limit their profits, their growth, and even drive them out of business. . . . By rationing the supplies of nonintegrated customers, or by

simply refusing to deal with them, the same results can be brought about . . ."

In addition to denying them supplies, the integrated producer can impose a "price squeeze" on his non-integrated rivals by narrowing the gap between the price of the raw material and the price of the finished product.

Food Processors

Food processors and canners are among the major corporate integrators in agriculture today, mainly through "contract production." But because so many different companies are involved in processing and canning, it is not immediately apparent just how heavily concentrated that marketplace is.

However, in the canning industry there is a high degree of specialization because most canners do not can everything from applesauce to zucchini. Just as consumers are faced with two or three brands of any given item, farmers often have only two, three or possibly four markets for their product.

Regionally, for most crops, four processors handle 50 percent or more of the large-volume sales.

For example, the four leading fruit and vegetable canners—Del Monte, H. J. Heinz, Campbell and Libby, McNeil and Libby—sell more than 60 percent of fruit cocktail, 57 percent of the applesauce, 82 percent of the canned figs, 52 percent of canned sweet corn, 58 percent of vegetable juice, 53 percent of canned peas, and 72 percent of tomato sauce.

Campbell makes 90 percent of our soup.

On a national basis, these four processors have a "low-grade oligopoly," controlling approximately 40 percent of canned-good sales nationally. To the consumer this control means, according to a 1972 Federal Trade Commission study, that they have been paying $143.6 million in monopoly overcharges for canned fruits and vegetables and $84.9 million in similar overcharges for frozen fruits and vegetables.

Between 1970 and 1977, profits for vertically-integrated food processors skyrocketed: Campbell Soup's went up 70 percent; those for Heinz rose 156 percent; and Del Monte's leaped 254 percent.

Libby, McNeil and Libby is a subsidiary of Nestle Alimentana, a Swiss multinational corporation, and no figures are available for Nestles' many subsidiaries.

Such profits and control by these canners and processors have begun to alarm their major suppliers—the contract farmers—and they are beginning to take matters into their own hands.

In 1975, Domenic Enrico sued some two dozen of the biggest food processors in the nation under antitrust and agricultural fair practices law after H. J. Heinz and others stopped purchasing his tomato crop.

Enrico, a successful organizer for the California Tomato Growers Association (CTGA), which bargains with the canneries on behalf of the growers, claimed that the Heinz cancellation was an effort by the firm to halt his organizing activities.

The suit went largely ignored, however, by industry, government and consumer groups. Even the CTGA excused itself from the suit. One attorney for the canners told Enrico, "our technique for winning this kind of a suit is to drag it out so that the guy either goes broke or dies of old age."

In April, 1979, however, John and Jim Diedrich, two neighboring Firebaugh, California farmers, filed their own class action antitrust suit. They charged that Contadina Foods, Inc. and Ragu Foods, Inc. convinced them to invest more than $1 million in new tomato harvesting machines by promising to buy enough tomatoes to justify the expense. Once the machines were purchased, the canners refused to contract for the Diedrich's crop.

The Diedrichs soon joined Enrico and together the three are now charging the two dozen major U.S. canners with allegedly conspiring to fix prices, eliminate competition in the canning tomato industry and using intimidation to convince farmers not to join price bargaining associations.

The three growers promise to draw national attention to their suit, since 80 percent of the country's processed tomato crop comes from California and many of these same firms are major processors and canners of a variety of other fruits and vegetables.

Who's Got the Beef?

We can see dramatic evidence of this trend toward economic concentration through vertical integration in other areas of our food-production system.

The nation's $40 billion meat industry is of particular interest today since it is the largest single component of the food industry with regard to total

The Hidden Link

Agricultural Structure and the Quality of Rural Life

Peggy Borgers

While farm families today constitute only 3 percent of the total U.S. population and only 10 percent of the population in nonmetropolitan areas,[1] agricultural employment—both on the farm and in agriculture-related industries—is still the largest single source of rural jobs. In many regions, in fact, agriculture is the predominant activity and the basis for the local economy. The overall health of the agricultural sector obviously has a profound effect on the rural economy and, indeed, the economy of the entire nation—especially in light of the need for agricultural exports to offset expensive oil imports and assure a favorable balance of trade.

But equally important to the rural economy is the *relative* well-being of people *within* the agricultural sector. The maldistribution of income and influence within agriculture is not only the concern of farmers: it has serious implications for all rural people and their communities. In other words, the structure of American agriculture has a profound and determining influence on the "quality of life" in rural areas.

Nevertheless, this relationship between agricultural structure and quality of life has received little attention from policy-makers and federal researchers. The only federally-sponsored research on this issue was a classic 1944 study of two towns in California. Funded by the Department of Interior and the U.S. Department of Agriculture (USDA), the so-called Arvin-Dinuba study, carried out by Dr. Walter Goldschmidt and two other researchers, was stopped by USDA before its completion as a result of pressure brought by large growers (see box). Despite this, the research team was able to compile significant data that provide the only intensive research picture available on how farm size affects rural communities.

Dr. Goldschmidt, in testimony last year before the Senate Judiciary Committee's Subcommittee on Antitrust, Monopoly and Business Rights, summarized the study's findings:

"The research centered on two towns in what is known as a controlled comparison. That means that every effort was made to find a situation where all possible causative factors were alike, except the scale of farm operation, which varied widely (497 vs. 57 acres per farm). Arvin, lying southeast of Bakersfield, was dominated by the DiGiorgio corporation and other large-scale operations; Dinuba, southeast of Fresno, was a community of small orchards and vineyards. Both used the capital-intensive, wage labor operations characteristic of California's specialty crop production. The dollar volume of agricultural production in the two towns was identical.

"By every measure that I could devise, the quality of life in Dinuba was superior to that of Arvin.

"The small farm community supported about 20

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percent more people, these people had a better average standard of living and a higher average income. In the small farm community over half the breadwinners were farmers, independently employed businessmen, or white collar workers, as against only one-fifth in such a classification in the large farm community. Less than one-third of all breadwinners were low-security, low-income agricultural laborers in Dinuba, while nearly two-thirds of the Arvin population was farm labor.

"The mileage of paved streets and sidewalks was greater and the garbage, sewage disposal and other public services were far better in the small farm community than in the industrially dominated one.

"Schools were more plentiful and offered broader services in the small farm community, which had four elementary schools and one high school, while the large farm community had but a single elementary school and bused its high school students some thirty miles to Bakersfield.

"The small farm community was provided with three parks while the large farm community had but a single playground, loaned by one of the corporations, with practically no facilities.

"The small farm community had over twice as many organizations for civic improvement and recreation as its counterpart; it had a youth recreation center, provision for Boy Scout troups, and similar facilities that were entirely absent in the other.

"There were twice as many churches in the small farm community as in that dominated by large farms.

"The small farm community supported 62 separate business establishments as against 35 in the other; it had a retail trade volume nearly two-thirds greater than the large farm-dominated town and the expenditures for household supplies and building equipment were over three times as great in the small farm community as in the larger farm community.

"Dinuba had two newpapers, each published two or three times a week, with many times the news space of the single weekly newspaper in the industrialized farm community. The citizens therefore had access to differing political philosophies and diversity of opinion on community and world issues.

"Finally, and I think most importantly, Dinuba had a local civic government elected by the local people and directly responsible to community wishes, while such civic amenities as existed in Arvin were provided at the whim of the county commissioners residing 30 miles away, with no local democratic process whatsoever.

"There is no doubt that the dominance of large-scale agribusiness was the cause of these vast and important differences between the two towns about 100 miles apart and engaging in the same kind of agricultural production."[2]

Goldschmidt had planned a second phase of this research in which he would examine all the communities in the San Joaquin Valley. He intended to focus on the differences found in the Arvin-Dinuba study, compile similar information for other Valley communities and correlate this material with data on average farm size. Although he was prevented from carrying out this portion of the study, the preliminary statistics gathered on these communities "show that as farm operations become larger, fewer rural people are supported per hundred acres."

In 1977, researchers revisited Arvin and Dinuba and found that the gap between the two towns had only widened during the intervening years. In addition to reaffirming Goldschmidt's findings, the researchers identified two new trends:

- "The population of the small-farm community has grown at a faster and steadier rate than the large-farm community."
- "The large-farm community has become more dependent on outside sources of funding, partly as a result of an eroded local tax base, while the small-farm community has remained relatively self-sufficient."[3]

Encouraged by the pioneering work of the Arvin-Dinuba study, the Agricultural Marketing Project in Tuscaloosa, Alabama compared two areas of Alabama—one dominated by large, plantation-type farms, and the other by smaller, family farms. The small-farm counties were found to have higher agricultural production and higher median incomes for both farmers and farm laborers than did the large-farm counties. The small farm counties also had more tax revenues, more paved roads, higher expenditures for public education and half the amount of substandard housing found in the large farm counties. Reporting on the results of the Alabama research, Duna Norton of the Agricultural Marketing Project and Ginny Looney, a reporter, concluded: "The results of the comparisons suggest what the government policies have not recognized: small farms are better than large farms for the

economic health of a community because they contribute to a larger tax base, more public services, higher median incomes and more intensive use of natural resources."[4]

As farms become larger in size and fewer in number, local businesses also suffer. A survey of South Dakota carried out nearly twenty years ago concluded that one small business closes down for every six farms that are forced out of operation.[5] Larger farms, particularly those run by corporations, tend to bypass local businesses and instead buy farm inputs directly from wholesalers or the factory. Family farms, on the other hand, usually buy farm inputs and other items needed by the family from local businesses, thus contributing to the economic health of the community. The Farmers Home Administration (FmHA) studied 190,000 farm families that used FmHA-supervised credit in 1967; these families grossed $3.2 billion and spent all of it locally.[6] Since every dollar generated by locally-owned and operated farms results in the circulation of from $5 to $12 in the surrounding community, the tendency of larger farms to export their earnings by purchasing from urban-based suppliers erodes the economic foundation of rural communities.[7]

But by conducting economic analyses that exclude the effects on rural communities of increasing concentration in farming, USDA has been able to justify and pursue agricultural policies built on the premise that "bigger is better". The drive to concentration of resources inherent in "free market" economics has been sanctioned and encouraged by the federal government, regardless of the consequences for rural communities. The statistics indicate that these consequences have been profound.

In the past forty years, 4.5 million family farms have "disappeared." For the most part they were the smallest farms, owned or operated by low-income people;[8] a disproportionate number were owned by black farmers. Many of these displaced families migrated to the cities, where they joined the ranks of the urban poor. Since the 1940s, almost 30 million Americans have left rural places to migrate to major metropolitan areas.[9] The others became "the people left behind," contributing to pervasive rural poverty: with only 27 percent of the total population, rural areas account for more than 35 percent of all people living in poverty.[10]

The litany of economic and social problems confronting rural areas has become increasingly familiar in recent years. One half of the substandard housing units in the U.S. are occupied by rural people. Sixty-five percent of the housing units without complete plumbing facilities are located in rural areas. Forty-two percent of all adults who are functionally illiterate live in rural areas. Fifty-six percent of those who live in medically-underserved areas are rural people. Only 12 percent of our nation's physicians and 18 percent of our nurses work in rural areas. 84 percent of the counties with a "critical health manpower shortage" are rural. There are 151 physicians per 10,000 urban residents, but only 69 for every 10,000 rural residents. Although only one-fifth of women of child-bearing age live in rural areas, over half the maternal deaths each year are rural women. Forty-four percent of the elderly who are poor reside in rural areas. Sixty percent of all U.S. households with inadequate public transportation services are rural households. The list goes on and on.[11]

Meanwhile, the federal response to rural need has been inequitable and inadequate. Many domestic assistance programs are explicitly limited to urban centers; nonmetropolitan areas are eligible for other programs, but they often require more paperwork than small communities with limited or nonexistent staff can manage. Some federal programs contain "earmarked" funds or "set-asides" for rural areas, but these funds are rarely proportional to monies provided to urban and suburban areas. Meager funding, urban-oriented programs that cannot meet the special needs of rural areas, inadequate outreach efforts and a lack of coordination between (and even within) federal agencies all serve to hamper rural development efforts.

The overall responsibility for rural development lies with the U.S. Department of Agriculture. Many specific rural programs—such as loans and grants for rural housing, water and sewer facilities, fire protection and others—are administered directly by USDA. In addition, USDA is charged with coordinating the rural programs and the rural portion of national programs that fall under other agencies.

But in carrying out its rural development role, USDA has chosen to ignore the obvious interrelationship between rural development and agriculture. The failure of federal research to illuminate the economic interdependency between agriculture and rural communities has resulted in the formulation and implementation of rural development policies that are neither coordinated with nor supported by national agricultural policies. Dr. George Rucker,

research director of Rural America, Inc., in a paper prepared to advise the White House in its recent attempt to come up with a unified rural development policy, observed:

"It is to be hoped that Secretary Bergland's recent speech before the National Farmers Union convention in Kansas City represents the beginning of the Administration's evolving rural policy. Secretary Bergland did not claim answers, but he asked the right questions. He asked if we really want to continue farm policies that put a premium on large-scale commercial farming. We believe that the principles Secretary Bergland was enunciating—the need to consider human values and social costs

Sabotaging the Study

"Just thirty-five years ago this month [May 1979] my wife and I, together with the third member of our research team, were living in Dinuba doing the last part of the comparative study of Arvin and Dinuba . . . We remember those days very vividly, for we would gather in the park with our brown-bag lunches to listen on our car radio to the program sponsored by the Associated Farmers of California, the then dominating organization of industrial interests in the highly industrialized agriculture of my state. We were listening to this broadcast because we were repeatedly the subject of vilification by its 'farm reporter.' Every effort was made to hamper the investigation, and ultimately pressure was placed upon the Department of Agriculture, for which I was working, to stop the research.

" . . . The effort to sabotage the study was made because the corporate interests were fully aware of the effects of their mode of agricultural production on community life.

" . . . a concerted effort was made to sabotage, suppress and discredit this study. The argument was made that other factors were responsible. . . . Most of these comments harped on the theme that Arvin was younger than Dinuba, but in the study I had shown that facilities in Dinuba were all already available when it was the age that Arvin had attained in 1944. As a matter of fact, an examination of the facilities available in the two towns was made by Bruce L. LaRose, entitled 'Arvin and Dinuba Revisited, A New Look at Community Structure and the Effects of Scale of Operation,' and this showed that most of these amenities were still not available in Arvin in 1970, when Arvin was as old as Dinuba had been in 1944.

"The sabotage of the study prevented my settling this issue of causation absolutely. It had been my intention to have a second phase of the study, examining those differences that I had found in the detailed comparison that would be easily accessible from records or by brief conversations with community leaders for each of the rural communities of the San Joaquin Valley. I was going to correlate their incidence with data on average farm size, which information had already been supplied to me by agricultural economists. The pressures brought by large growers on the Secretary of Agriculture and the Chief of the Bureau of Agricultural Economics prevented this portion of the study . . .

" . . . the attacks made in both houses of Congress . . . resulted in curtailing the functional effectiveness of the Bureau of Agricultural Economics, a major social research agency of the United States government at the time, and later in its total demise. For a number of years the appropriation bill for the Bureau of Agricultural Economics provided 'that no part of the funds . . . shall be used for state or county land use planning, for conducting cultural surveys, or for the maintenance of regional offices.' Elimination of regional offices resulted in the rapid decline of the Bureau's effectiveness, and with it went all investigation of the social and economic implications of agricultural policy. The record of the Department of Agriculture in all social and economic research in the past quarter century is a dismal one, and the same may be said of such studies in the Land Grant Colleges.

"While the social scientists turned their interests elsewhere, often to assist in problems of distant nations, the American rural landscape was invaded by industrial interests and over 3 million farms disappeared, taking with them hundreds of thousands of small businesses and destroying hundreds of towns and villages."[2]

when we are evaluating farm policies—can be extended to all aspects of economic life. We believe that the long decline of rural America, which may at last be ending, was the result of the triumph of bigness not only in farming but in virtually all aspects of our economy. We believe that the enemy of rural life is concentration of power not only in agriculture but in industry and trade as well—a concentration that looks only at the benefits to the corporate unit in market terms and fails to consider the human and social costs with which those market profits may be purchased.

"In other words, we would argue that those programs and policies that discriminate against rural areas do so because they discriminate in favor of large-scale and concentrated institutions. This is the case with most of our farm programs and policies and it is also the case with our tax policies, our transportation programs, our health delivery system, and on and on and on.

"A rural policy that is meaningful will have to deal with this tendency to favor large-scale operations. It will have to assure equity in the geographic sense. This means it will have to emphasize not just rural access but small-scale access to credit, to capital and to economic opportunity. It will have to purge the regressive aspects that run all through our tax structure. It will have to emphasize support for community-based small-scale access to political as well as economic power. It will have to first and foremost adopt from the appropriate technology movement and from all great systems of ethics the basic principle that it is people who matter."[12]

Recommendations

1. Rural development policy and agricultural policy should be considered simultaneously. Care should be taken to see that the two policies are consistent and mutually supportive, rather than working at cross purposes.
2. The federal government should undertake research to determine the effects of the scale of farming on rural communities and on the entire fabric of American society. This research should identify the non-quantifiable aspects of policy decisions, so these decisions can be made on the basis of social choices, rather than simply following narrow economic dictates.
3. The public—and particularly the residents of small towns and rural areas—must have a voice in determining the direction of a coordinated agricultural and rural development policy.

Notes

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Perspectives on the Structure of American Agriculture

Volume II: Federal Farm Policies—
Their Effects on Low-Income Farmers and Rural Communities

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Prepared by Rural America with a grant from the Community Services Administration, as part of a U.S. Department of Agriculture inquiry into the "Structure of American Agriculture."

Spring, 1980